



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>

GENERAL LIBRARY
OF
University of Michigan

Presented by

Dr. Ford's Library

1900

10.5

12169

A16

3. 2. 15. 0

HALF-YEARLY ABSTRACT
OF THE
M E D I C A L S C I E N C E S .
JANUARY—JUNE,
1848.

LIST OF BRITISH AND FOREIGN PERIODICALS REFERRED TO IN THE "HALF-YEARLY ABSTRACT."

BRITISH.

British and Foreign Medico-Chirurgical Review.
Medico-Chirurgical Transactions.
Edinburgh Medical and Surgical Journal.
London and Edinburgh Monthly Journal.
Dublin Quarterly Journal of the Medical Sciences.
Lancet.
Medical Gazette.
Provincial Medical Journal.
Medical Times.
Dublin Medical Press.
Bell's Pharmaceutical Journal.
Guy's Hospital Reports.
Chemical Gazette.
Chemist.
British Record of Obstetrical Medicine and Surgery.

AMERICAN.

American Journal of the Medical Sciences.
" " *of Science and Art.*
Philadelphia Medical Examiner.
New York Journal of Medicine.
Boston Medical and Surgical Journal.
Southern Medical and Surgical Journal.
British American Journ. of Med. Science.

FRENCH.

Annales de Chirurgie.
" *d'Hygiène.*
" *de Chimie et de Pharmacie.*
" *des Maladies de la Peau.*
" *Thérapeutique.*
Archives Générales de Médecine.
Bulletin des Académies.
Encyclographie Médicale.
" *des Sciences Médicales.*
Journal des Connaissances Médico-Chirurgicales.
Gazette des Hôpitaux.
" *Médicale.*
Journal de Chirurgie de M. Malgaigne.
Revue Médicale.
Journal de Chimie Médicale.
Journal de Chimie et de Pharmacie.

GERMAN.

Schmidt's Jahrbücher.
Zeitschrift für de Gesamte Medicin.
Muller's Archiv. für Anatomie, &c.
Liebig's Annalen der Chemie und Pharmacie.
Canstatt's Jahresbericht.
Buchner's Repertorium.
Haller's Archives für Physiolog. und Patholog. Chemie.
Casper's Wochenschrift.
Poggendorf's Annalen.

N. B.—Every periodical here specified is consulted directly by the Editor and his coadjutors.

PHILADELPHIA :

T. K. AND P. G. COLLINS, PRINTERS.

THE
HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES:

102 8 44

BEING

A PRACTICAL AND ANALYTICAL DIGEST OF THE CONTENTS OF THE PRINCIPAL
BRITISH AND CONTINENTAL MEDICAL WORKS PUBLISHED
IN THE PRECEDING SIX MONTHS.

TOGETHER WITH

A SERIES OF CRITICAL REPORTS ON THE PROGRESS OF MEDICINE AND THE
COLLATERAL SCIENCES DURING THE SAME PERIOD.

EDITED BY

W. H. RANKING, M.D., CANTAB.,

LATE PHYSICIAN TO THE SUFFOLK GENERAL HOSPITAL.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.—CICERO.

NO. VII.

JANUARY—JUNE, 1848.

PHILADELPHIA:
LINDSAY AND BLAKISTON.
1848.

NOTICE TO CORRESPONDENTS.

The Editor requests that all communications be forwarded (free) either to MR. CHURCHILL, Princes street, Soho, London, or to himself, addressed DR. RANKING, Norwich.

The Editor is compelled to remind his American correspondents that no parcels are taken in unless the entire charge is paid upon them.

Numerous Journals and other communications from America, with a charge varying from 10s. 6d. upwards, have been refused.

CONTENTS.

PART I.—PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

SECT. I.—Zymotic Diseases.

ART.	PAGE
1 Observations on the Treatment of Cholera :—	
By Dr. Parkes	17
Dr. Gavin Milroy	19
Mr. Bell	21
Dr. Black	ib.
Dr. Patrick Fraser	22
2 Treatment of Cholera in the Stage of Collapse :—	
By Dr. O. Ward	ib.
Dr. King	23
3 Capsicum Embrocations in Cholera	24
4 Laryngotomy in Typhus Fever	ib.
5 Application of Chloroform in Typhus Fever	25

SECT. II.—Diseases of the Nervous System.

6 Extracts from Andral's Lectures on General Pathology—Semeiotics of the Nervous System	ib.
7 On certain forms of Headache. By Dr. Murphy	31
8 Headache caused by Inflammation of the Frontal Sinuses	33
9 Treatment of Apoplexy. By Mr. Solty	ib.
10 Treatment of Delirium Tremens without Opium. By Mr. Corfe	ib.
11 Ebereal Inhalation in Delirium Tremens. By Dr. Upham	34
12 Treatment of Chorea by Tartar Emetic	35
13 Tetanus successfully Treated by Large Doses of Quinine. By Dr. Bishop	ib.
14 Ether in Tetanus. By Mr. Hopgood	36
15 The Actual Cautery in Neuralgia	ib.
16 Treatment of Facial Paralysis	ib.

SECT. III.—Diseases of the Respiratory System.

17 Semeiotics of the Respiratory System	37
18 The Alphabet of Auscultation	43
19 On Spasm of the Glottis in the Adult. By Dr. Wardell	44
20 Aphonia curable by the Inhalation of Benzoin	46
21 Employment of Large Doses of Tartar Emetic in Pneumonia. By M. Herard	47
22 Delirium in Pneumonia	49
23 Differential Diagnosis of Pneumonia and Pleuritis	50
24 Chloroform in Asthma. By Mr. Chandler	ib.
25 New Diagnostic Sign in Emphysema of the Lungs	ib.

SECT. IV.—Diseases of the Circulatory System.

26 Semeiotics of the Circulating System	51
27 Physical Diagnosis of Aneurism of the Thoracic Aorta. By Dr. Golding	61
28 On Pericarditis Scorbatica. By Dr. Kyber	64

SECT. V.—*Diseases of the Chylopoietic System.*

ART.	PAGE
29 Semeiotics of the Digestive System	65
30 Chronic Amygdalitis, and Treatment of Indurated Tonsils. By Dr. Naudin	70
31 Ulcerations of the Colon from the presence of a Calculus—Peritonitis—Death—Case. By Mr. Snape	ib.
32 Acetate of Lead in Tympanitis. By Dr. Badeley	71
33 Treatment of Flatulence. By Dr. Dick	ib.

SECT. VI.—*Diseases of Uncertain or Variable Seat.*

34 Therapeutical Action of Phosphate and Ammonia in Gout and Rheumatism. By Dr. Edwards	72
35 Cold Applications, with Opium and Quinine, in Acute Rheumatism	73

SECT. VII.—*Diseases of the Urinary System.*

36 Semeiotics of the Renal System	74
37 On Albuminuria independent of Renal disease. By Dr. Finger	76
38 Irritable Bladder from Tapeworm	77

PART II.—SURGERY.

SECT. I.—*Symptomatology and Diagnosis of Surgical Diseases.*

39 Constitutional Syphilis of Infants. By MM. Trousseau and Lasègue	79
40 Excerpta from a Treatise on Fractures in the Vicinity of Joints. By Dr. R. W. Smith	80
I. Fractures of the Neck of the Femur—Corollaries on their Diagnosis and Pathology	ib.
II. Fractures in the vicinity of the Wrist-joint—Corollaries	81
III. Fractures of the Humerus in the Vicinity of the Shoulder-joint	83
IV. Fractures of the Acromial Extremity of the Clavicle	84
41 Differential Diagnosis between Congenital Dislocation of the Lower Maxilla—Accidental Dislocation of the same, and Chronic Rheumatism. By the Same	ib.
42 The Diagnostic Characters of Urethral Discharges simulating Gonorrhœa, and occurring accidentally in cases of Spermatorrhœa. By Mr. H. J. M'Dougall	85

SECT. II.—*Nature and Causes of Surgical Diseases.*

43 Acute Myringitis, or Inflammation of the Membrana Tympani. By Mr. W. R. Wilde	85
44 Chronic Myringitis. By the Same	87
45 New Views respecting the Origin and Growth of certain Concretions in the Prostate Gland. By C. H. Jones, M.B.	88
46 The Surgical Relations of Associated Muscular Motion. By Mr. J. P. Vincent	90
47 Origin of the Venereal Disease. By M. Ricord	91
48 Syphilitic Myringitis. By Mr. W. R. Wilde	93
49 The Nature and Cause of Painful Crepitation of the Tendons. By M. Velpeau	94
50 The Cause of Eschars over the Sacrum. By M. Blandin	ib.
51 Aneurism of the Arteria Innominata spontaneously cured. By Dr. J. A. Wishart	ib.
52 Enormous Enlargement of the Left Mamma, with an Anatomical and Pathological Description of the Tumour. By Mr. W. E. Image and Dr. T. G. Hake	96

SECT. III.—*Treatment of Surgical Diseases.*

53 The Treatment of Acute Myringitis. By Mr. W. R. Wilde	98
54 The Treatment of Pes Equinus—Successful Tenotomy. By Professor Dieffenbach	100

CONTENTS

vii

ART.	PAGE
55 The Treatment of Hemorrhage. By Mr. J. P. Vincent	101
56 Reduction of a Luxation of the Transverse Apophysis of the Fourth Cervical Vertebra on the Seventh Day. By Dr. Schrauth	102
57 Ununited Fracture treated successfully by Galvanism. By Mr. J. Burman	104
58 Aphorisms on the Treatment of Varicocele. By Dr. Fritsche	105
59 Punctures of the Scrotum in Hernia Humoralis. By M. Velpeau	106
60 The Curative Effects of Aconitum Napellus applied Externally to Ulcers. By M. J. Grautham	ib.
61 Subclavian Aneurism cured by Galvano-puncture. By Dr. Abeille	107
62 Excerpta from Lectures on Syphilis—Syphilitic Ophthalmia. By Dr. Porter	108
63 The Treatment of Onychia. By Mr. J. P. Vincent	112
64 Simple Treatment of Fracture of the Clavicle. By M. Velpeau and Mr. J. P. Vincent	ib.
65 Case of Axillary Aneurism, for which the Subclavian Artery was tied with Success. By Mr. James Syme	ib.
66 The Treatment of Subcutaneous Submammary, and Parenchymatous Abscesses of the Breast. By M. Velpeau	113
67 On the Nature and Treatment of Spermatorrhœa. By Mr. Benj. Phillips	114
68 Removal of the Parotid Gland. By Professor Pancoast	116
69 Turpentine as a remedy in the Hemorrhagic Diathesis. By Mr. J. P. Vincent	118
70 Popliteal Aneurism cured by Compression in Four Days. By Mr. Cusack	119
71 Exostosis of the Tibia removed by Operation. By Dr. J. Seddon	ib.
72 Chronic Inflammation of the Bladder successfully Treated by Injections of Nitrate of Silver. By Dr. R. L. McDonnell	120
73 Cure of Prolapse of the Uterine, by Injection of Sulphate of Iron. By Mr. J. P. Vincent	123
74 Corollaries on the Treatment of Wounds of the Chest. By Mr. G. J. Guthrie	ib.
75 Restoration of the Alæ Nasi. By M. Bonnett	124
76 The Treatment of Dislocation of the Patella on its Edge. By Mr. J. P. Vincent	126

SECT. IV.—Rare Surgical Cases.

77 Fatal Hemorrhage from the Subclavian Artery in a case of Abscess of the Neck. By Mr. W. Jackson	126
78 Ligation of the Vertebral Artery. By Professor Chelius	127
79 Remarkable Case of Emphysema of nearly the whole Body. By Mr. G. Ponce	128
80 Gangrene of the Limb in a Young Subject, with Obliteration of the Arteries. By Mr. A. Fiddes	ib.
81 Abscess of the Tongue Fatal. By Mr. Ward	131
82 Elephantiasis Scroti	132

PART III.—MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

SECT. I.—Midwifery and Diseases of Women.

83 On the Causes of Abortion. By Dr. Tyler Smith	133
84 On Retroflexion of the Womb. By Mr. Hensley	136
85 On Retroflexion of the Uterus. By Dr. Beatty	138
86 Ulceration of the Lining Membrane of the Uterus—Pregnancy. By Dr. Clay	139
87 Reduction of an Inverted Uterus, dating from Sixteen Months and a Half. By M. Valentin	140
88 Case of Unavoidable Hemorrhage—Transfusion Successful. By Dr. Waller	141
89 Case of Complete Antero-version of the Uterus during Labour. By Dr. Müller	142
90 Case of Abdominal Pregnancy, with Suppuration and Extraction of the Fœtus through the Abdominal Walls. By Dr. Dückert	143
91 Case of Interstitial Pregnancy. By M. Payan	ib.

ART.	PAGE
92 Spontaneous Rupture of the Uterus before Labour. By Mr. Brownbill -	144
93 Cancer of the Womb simulated by a Piece of Sponge. By Dr. Mitchell -	145
94 On Phlebitis of the Brain and Meninges in Puerperal Women. By M. Ducrest	ib.

SECT. II.—*Diseases of Children.*

95 On the Theory of Spasmo-paralysis in Children and Adults. By Dr. M. Hall	147
96 On the Convulsive Affections of Infancy. By the Same	149
97 Treatment of Acute Hydrocephalus. By Dr. West	151
98 On the Symptoms and Treatment of Spasm of the Glottis. By the Same	153
99 Symptoms of Infantile Phthisis. By the Same	156
100 Symptoms and Treatment of Infantile Pleurisy. By the Same	157
101 On Atelectasis Pulmonum. By the Same	160
102 On the Diagnostic Value of Tears in Infancy	161

REPORTS.

Report on the Progress of Practical Medicine, Pathology and Therapeutics. By the Editor	165
Report on the Progress of Surgery. By Henry Ancell, Esq., M. R. C. S.	202
Ophthalmic Surgery	232
Report on the Progress of Midwifery, and Diseases of Women and Children. By the Editor	254
Report on the Progress of Forensic Medicine—Toxicology. By W. A. Guy, M. B., Cantab, &c.	280
Report on the Progress of Knowledge with respect to Psychological Medicine. By Dr. Lockhart Robertson, &c.	314

Books received	346
Index	347

ERRATA.

In Vol. VI., p. 283, Par. 17, for "Dr. Thomas Addison," read "Dr. Thomas Williams."
Page 348, line 19, for "Dr. P. Smith," read "Dr. Simpson."

ABSTRACT OF THE MEDICAL SCIENCES,

&c. &c.

PART I.

PRACTICAL MEDICINE, PATHOLOGY AND THERAPEUTICS.

SECT. I.—ZYMOTIC DISEASES.

ART. 1.—*Observations by Various Writers on the Treatment of Cholera.*

[The steady approach and expected arrival of this fearful pestilence, for the second time in this country, have given occasion for the publication of numerous opinions, respecting its pathology and treatment. In the present department of our volume we have confined ourselves to the subject of the latter only, leaving the important questions of the causation and pathology of the disease to the Report.]

I. By E. A. PARKES, M. D.—Dr. Parkes divides the treatment of cholera into two parts, according as it is applied while the circulation still goes on with sufficient vigour to allow of absorption, and according as it is used after this period, when, from the arrest of the circulation, absorption is prevented. It is also evident, he observes, that, for practical purposes, there are two aspects under which every case of cholera must be viewed: 1st, with reference to the watery exhalations; and, 2d, to the deeper changes in the protein constituents, as opposed to each other: therefore two indications have generally been followed, and remedies have been given, either for the purpose of averting the purging, or of acting directly upon the latent changes in the blood which constitute the essence of the disease.

Dr. Parkes thinks that many of the apparent contradictions of treatment recommended by authors, are to be explained by the recollection of its pathology. Thus astringents have been found useful by those who have witnessed chiefly the slighter forms, in which the changes in the fibrine are moderate in intensity, and capable of gradual reparation, when the exhalation of serosity is arrested. Emetics and purgatives have been extolled by other observers, who have encountered the severer types, and who, recognising the comparatively slight character of the cases accompanied with great purging, believe that the chief indication was to bring on this symptom in the cases under treatment. Dr. Parkes thinks it undeniable that the arrest of the watery eliminations is, in the cases of inferior intensity, attended with positive benefit: he considers the opinion that vomiting and purging are salutary evacuations to be erroneous; but he does not look upon their arrest as synonymous with the cure of cholera.

Medical art has, according to the author, failed hitherto to arrest or contest the essential alterations in the blood; no medicine has yet been found which can counteract the changes in the fibrine, and nullify the first effects of the choleraic poison on the blood. The efforts of European science, on the contrary, appear to have been hurtled in many cases. The attempt to cut short the disease, and to rouse

the system from a condition erroneously compared to debility and exhaustion, has, he thinks, certainly often accelerated the progress of the disease.

In his further remarks, the author speaks more in detail, as follows:—

1. *Treatment of Cholera in the first period, while absorption is possible.*—The great indication is to prevent the passage of fluid from the alimentary mucous membrane, and from the skin. The two grand measures which, in the author's cases, seemed to effect this, were blood-letting and astringents. In addition, a strong stimulus at the very commencement was occasionally found useful.

Blood-letting is strongly recommended by Annesley, who calls it his "sheet-anchor," while Twining, in a more severe variety of the disease, found it comparatively useless. The author states, as the result of his own experience, that the benefit of blood-letting was more marked, according as the disease was in its earliest stage, and according as it assimilated to the several varieties of pseudo-cholera. In the latter cases it was often attended by striking results, especially when there were general severe spasms and a full pulse. Of all the astringents which have been used in cholera, he prefers the acetate of lead. He gives two or three grains, with a quarter of a grain of opium every half hour for the first two or three hours, then every hour for a variable period. It was often found that the vomiting first ceased, then the purging. The algide symptoms were unaffected by it, or by any other remedy. The cramps were best relieved by friction with opium, turpentine, &c.

2. The second indication during this period is to counteract the deeper changes in the blood; to this end the author mentions the following plans:

a. *Applications to the surface—warm and cold.* Warm baths, and warmth, however applied, were never found of the slightest service in true cholera. The warm bath sometimes depressed the patient. The author does not know of a single case in which it was beneficial. If warmth be used at all, he thinks it should be at the earlier stage, and in the form of hot air bath. Cold to the surface was more grateful to the patient than warmth, as might be anticipated from the way in which he throws off the bedclothes, so as to expose the surface freely to the air. Cold affusion, even in the last stage, two or three hours before death, sometimes caused the pulse to become perceptible.

b. *Remedies taken by the mouth.* The author considers that no one remedy is, as regards the present indications, better than another. He has given, in all stages, calomel, opium, hemp, camphor, quinine, creasote, tartar emetic, salines of all kinds, ether, hyoscyamus, &c. Large doses of calomel were found, in many cases, injurious.

c. *Enemata.* The author has used warm saline enemata, but without marked advantage.

d. *Remedies inhaled.* He employed the vapours of ether, ammonia, creasote, alcohol, iodine, and chlorine: of these, the only two of which he can speak in positive terms, are creasote and ammonia; their effect was unimportant.

e. *Galvanism.* No good result.

The author's conclusions as to the treatment of the early stages of cholera are:—

1. Blood-letting and astringents to arrest the passage of fluid from the alimentary canal.

2. Mustard poultices to the abdomen and cardiac region.

3. Cold affusion and cold drinks.

4. Diffusible stimuli, provided vomiting is not reinduced.

When vomiting and purging have been suspended, time should be given for the function of respiration to be properly performed. During this time the patient should not be actively treated.

11. *Treatment of Cholera in the second period, when absorption is very slow, or completely suspended.*—At the commencement of an epidemic some cases are met with, with symptoms so active as to bring them at once to this period, or a case may gradually merge into it. At this time the exhibition of medicines by mouth or rectum is perfectly useless. The only means by which medicines can be introduced into the system are by inhalation, or by injection into the veins. Of other remedies the author thus speaks:—

1. Blood-letting has been strongly recommended by several writers; the opinion.

of the majority is, however, against it. It is exceedingly difficult to get blood in this stage; it flows guttaim, and the arm must be fomented to obtain blood even in drops. If, however, blood-letting does little good, I do not think it does any harm; and occasionally it seems to relieve the painful dyspnoea and oppression at the heart.

2. Emetics have been much recommended—the author has never observed much benefit from them.

3. He tried inhalation of various vapours in this as well as the former period, and with the same want of success.

4. When a case has reached the second period, it is almost inevitably fatal. Occasionally a patient rallies after many hours of apparently almost suspended circulation, but this chance is hardly worth anything. And yet, if the circulation could be partially kept up, every hour adds to the chance of success. If any means could be devised to restore in some degree the process of respiration, nature might overcome the chemical combination which the poison has formed with some constituent of the blood. This result (continues the author), the problem in the treatment of cholera, can only be accomplished by injections into the veins. [Saline injections, recommended by Stevens and others, were tried by the author with complete want of success, and he therefore determined to try the injection of an alkaline solution of albumen. The cases were all the worst stage, and deemed irrecoverable. They were five in number:—

In the first case, when in the last stage, a solution of sesquicarb. soda $\mathfrak{z}\text{iv}$; chloride of sodium $\mathfrak{z}\text{ij}$; albumen of one egg, water 98° Oiv, after filtration was slowly injected—some appearance of rallying followed, but the improvement was fallacious.

The second was also one of algide cholera. Like the other, the injection caused a remarkable rigor, and some reaction followed—this patient rallied, but died in the consecutive fever. This is the most favourable case the author has to record, as the others did not offer even this amount of encouragement of his design.]

In the consecutive fever, leeches should be freely applied; alterative doses of calomel, ipecacuanha, and colocynth are useful.

Researches on the Pathology and Treatment of Algide Cholera, London, 1848.

II. By Dr. GAVIN MILROY.—This author observes, that the first thing to be done is to have the patient at once stripped and enveloped in warm blankets. The application of bottles of hot water, bags of hot salt or bran to the feet, between the legs, and along the course of the spine, will always be useful in increasing the warmth of the general surface. This is a point of great importance; as the cutaneous circulation is all but arrested, and the blood is consequently accumulated in the internal viscera.

This preliminary point being attended to, he recommends, on the results of some experience during the epidemic of 1832 in London, the immediate exhibition of *saline emetics*. Without going so far as to say that the incessant vomiting, which generally constitutes so distressing a symptom of the disease, is a medicative effort of the system either to relieve itself of offending matters, or to rally the stagnant state of the circulation; he does not doubt that the practice, so often pursued, of seeking to arrest it at once by the exhibition of large doses of opium and other narcotico-astringent remedies, has been the cause of much disappointment, and not unfrequently too of very serious mischief. Common salt is at once the most convenient and the most useful emetic that can be employed. Let from a desert to a tablespoonful or more be dissolved in a tumblerfull of water, and drank off immediately; and let the dose be repeated again and again at short intervals, if it be speedily rejected without having induced the forcible contractions we desire. When this object is once fully attained, the incessant vomiting, which existed before, will, in very many cases, be found to be remarkably abated. Then is the time for the application of a stimulating *epithem* upon the abdomen, and especially over the epigastrium; and certainly nothing is better for this purpose than that which has been so strongly recommended by Dr. Copland, viz., a large flannel wrung nearly dry out of very hot water, and then moistened with spirits of turpentine: a portion of laudanum may be added to it at the same time.

In many cases, a strong sinapism will answer very well. The relief obtained from such applications is often most decided; not only is the irritability of the stomach sensibly quieted, but the excruciating cramps of the abdominal muscles are at the same time decidedly relieved. If, by the means now mentioned,—outward warmth, saline emetics, and stimulant fomentations of the abdomen—the vomiting has become much mitigated or checked, the incessant purging also will often be found, at the same time, to have diminished. Should the purging continue, notwithstanding the abatement or cessation of the vomiting, the indication will be to act, in reference to the one symptom, upon the same principle which guided our practice in reference to the other. The bowels should be stimulated to energetic contraction; it is in this way only that the enormous draining from their mucous surface can be safely as well as effectually arrested. To attain this object, it will be wiser, on most occasions, to trust to enemata rather than to medicines exhibited by the mouth, in order to avoid all unnecessary distress of the irritable stomach. The injection may consist either of a strong solution of salt or of spirits of turpentine, mixed with gruel or any other convenient vehicle. It is doubtless well known to most medical readers, that one of the earliest and surest signs of favorable omen, in a case of Asiatic cholera, is the appearance of anything like bilious or fecal matter in the dejections. Hence it is that the practice of some of the most experienced men in the East Indies has been primarily and mainly directed to this end, and undue reliance has been placed upon the administration of enormous doses of croton oil and other drastic purgatives, either alone or in combination with opium. Speaking of opium, if opium is to be employed—and that it may often serve some useful purpose is not denied—let it be almost exclusively used as an outward application, or let it be administered only in small doses, and in conjunction with other remedies.

The author states that, whenever the vomiting has ceased or become sensibly abated, it will be prudent to begin the administration of some preparation of mercury. From five to ten grains of *calomel*, or double this quantity of the *hydrargyrum cum creta*, in combination with the carbonate of soda or magnesia, should be given immediately; and the dose repeated every three, six, or ten hours, according to the circumstances of the case. *Camphor* may often be advantageously added to these powders; or the different substances may be made up into pills with any of the warm essential oils. The effect of this treatment will be to excite the hepatic and pancreatic functions, and to induce a more healthy condition of the whole intestinal canal. The occasional administration of a stimulating enema will, at the same time, serve to bring down the vitiated matters, which, I need scarcely say, are almost always found to stand in need of evacuation after the immediate symptoms of the disease have been subdued.

To allay the intense thirst—which is often accompanied with a sense of burning heat in the region of the stomach—that is almost always present in cases of cholera, he recommends that effervescing draughts be prepared with the carbonate of ammonia, soda or seltzer water, iced water, water acidulated with the sulphuric or some other mineral acid, light well-fermented beer, or, in short, whatever may be most grateful to the patient, should be given without restriction; only cautioning him to take small quantities very often, rather than large draughts less frequently. On the whole, he thinks it better to avoid strong and spirituous stimulants, if these simple beverages suffice: and, in nine cases out of ten, the latter will be found to be quite as refreshing and exhilarant as the former, even when the system is in a state of great depression.

In the treatment of a disease like cholera, the ultimate as well as the immediate effects of our remedies should always be kept in view; and, considering the marked tendency there is to the supervention of typhoid phenomena upon the cessation of the primary symptoms, the prudent physician will prefer the use of those means that may be fairly viewed as counter-agents rather than as provocatives of the consecutive mischief. Doubtless, the suppression of the biliary and urinary secretions, and the consequent retention in the system of effete and noxious matters, that are continually being eliminated from the blood, form one of the chief causes of this secondary typhus; and there is good reason to believe that the tendency to its occurrence will be found to be exactly proportionate to the difficulty, or delay, with which these important functions are re-established. Of

course, therefore, special attention will always be directed to this point, immediately after the subsidence of the proper choleraic stage. It is unnecessary to particularise the appropriate remedies to be employed for such a purpose. Lastly, in closing these remarks, the author would again urge the necessity of husbanding the patient's strength with all possible care. Among other precautions, the patient should never be allowed to rise up, far less to leave his bed, when the calls of nature require relief. The exhaustion, caused by the neglect of this simple rule, has, in not a few cases, proved almost instantaneously fatal.

The Cholera not to be arrested by Quarantine, &c., London 1847.

III. By Mr. BELL.—Mr. Bell states that the obvious treatment is blood-letting, but not performed at any time, or under all circumstances. The time is indicated by him in the following words:

"When the exudations from the bowels or skin are flowing freely, and when the heart is heard struggling to overcome the load by which it is oppressed with unabated vigour, the lancet cannot be used too promptly; but when the attack has continued for four or five hours, when the purging has become less copious, and when, instead of manifesting a continual struggle, the heart appears to be only capable of intermitting exertions," then Dr. Bell advises to trust to medicine alone; but if, after a period of quiet, the struggle recommences, he bleeds without hesitation.

When bleeding is inadmissible, the author's treatment is dictated by his view of the pathology of the disease, viz. that it is a species of ague. Quinine is the remedy; but he states that given alone it always fails, but, on the contrary, when combined with iron, it is eminently curative.

His ordinary prescription is: Quin. disulph. gr. xij; ferri sulphat. gr. ix; acid. sulph. m. xl; aquæ Oiss. The dose is not stated. He has generally found the first dose suspend the vomiting.

Of stimulants, he remarks that they are useful before congestion is established, but hurtful afterwards. Calomel is entirely disapproved of.

Medical Gazette, Jan. 1848.

IV. By Dr. BLACK.—[Referring to his experience of the former outbreak of the disease, Dr. Black, of Manchester, observes as follows:]

The mild or gently incipient stage of the disease was easily and successfully treated; but the asphyxiated cases were nearly hopeless. The vomiting and purging were not so formidable to combat as the state of the circulation. In this latter stage various remedies have been used, for which the journals may be referred to; but from all that I have seen and heard, I incline to a small bleeding in stout subjects; small doses of calomel and croton oil, repeated to the second or third time; then small doses of the former, with capsicum and camphor; non-purgative saline medicines, combined with ammonia. I have seen benefit from an emetic of salt and water at the commencement, followed by small doses of oleum terebinthinæ, or chloric ether. No opium, unless there were spasms, or active purging or vomiting, with heat of body. I have seen this drug tend to narcotise; and if consecutive reaction takes place, the opium seems to be absorbed nearly all at once, and the brain is consequently and evidently enervated and overcome. Brandy has also the same effect in a less degree, and should be very sparingly exhibited. Enemata of hot water, salted, or with oleum terebinthinæ, a little chloride of lime, or with some spirits, or one entirely of hot beef tea, have been used with more or less relief. I would inject much, and leave the patient to drink warm water *ad libitum*, to distend, warm, and promote circulation in the portal system, which is allowed, on all hands, to be in a much congested state; besides, the mere dilution of the morbid secretions of the bowels seems to do good. I am doubtful of the application of great external heat being of much avail, beyond an occasional sinapism to the epigastrium, hot bran poultices along the spine, or frictions with hot and stimulating oils, as oil of camphor, oil of succinum, oil of turpentine. I fear too much heat exhausts the small remainder of vitality in the skin and whole frame, and excites the heart to undue action on its enervated and carbonised blood. The capillary system is no longer, or, at the time, under

the call of such a stimulus. The vitality must be first diffused; and if the heat applied be too great, it is exhausted instead of being diffused.

Prov. Med. and Surg. Journal, Jan. 26, 1848.

V. By Dr. PATRICK FRASER.—This author remarks that the primary step is to renew and retain the animal heat. Of stimulants, for this purpose, he prefers the carbonate of ammonia; small and repeated doses of brandy and water proved, in many cases, a valuable adjunct. No benefit was observed from effervescing draughts. Copious salt-and-water enemata served, in some cases, to rouse the patient.

In eight cases cold water was allowed *ad libitum*; but all died. Transfusion, with the following injection, was practised in a few cases: R. Sodii chloridi ℥ij; sodæ carbon. ℥ij; aquæ Hvj, at the temperature of 112° F. (?) In one case only was it beneficial.

The author's observations would lead him to be very cautious in the exhibition of opium alone, except in the spasmodic form of the disease. In a state of collapse he thinks it decidedly injurious. The case is different when the patient complains of slight purging, and occasional nausea and vomiting. If at this period five grains of calomel and one of opium be given, with a frequency guided by the symptoms, and assisted by chalk mixture, the disease becomes manageable.

Calomel, uncombined, is regarded with favour by the author. He has seen it, in large doses, useful in calming irritability; and thus powerfully aiding further treatment. If pytalism is induced, a cure almost always ensues. The author speaks of cases in which 330 and 550 grains were taken in forty and fifty hours respectively. These cases recovered.

The author does not approve of general bleeding, excepting in spasmodic cholera. Dry frictions were found useful; as were also large sinapisms and terebinthinate embrocations.

Medical Gazette, March 3, 1848.

ART. 2.—*Treatment of Cholera in the Stage of Collapse.*

(*Lancet*, Dec. 18, 1848.)

I. By Dr. OGIER WARD.—The author states it as his opinion that cholera is the prolonged cold stage of a peculiar form of fever, which, if very intense, destroys the patient at once; but in other cases induces a gradually increasing congestion of the interior venous system, which relieves itself by the effusion of serous fluid into the stomach and bowels. For this state he mentions that much may still be done for the relief of the patient. The most approved external remedies were, external heat, cold affusion, and counter-irritants. The author attempts to account for the favourable opinion of the application of cold in Persia, and of heat in Russia and the rest of the northern countries, partly by the concordance of such ideas with the ordinary feelings of the inhabitants of such different climates; and partly by the notion that in Persia, where the thermometer is above 98° in the sun, the patients, exhausted of their fluids by the disease, would be dried up and mummified by any attempt to keep up the temperature of the body by exposure to the sun's heat; whereas in Russia, &c., it was supposed, and probably with truth, that as cold is a direct sedative, its opposite, heat, was necessary to restore the vital powers. All the reports concur in the efficacy of cold affusion in inducing reaction; and its success appears to have been in proportion to the violence of the shock. Counter-irritants were successful only in connection with other remedies; but they deserve attention from their stimulating power, and their readiness of application. Blood-letting was useful in every stage in relieving the congestion and rousing the heart, by removing the load that oppressed it. In the state of complete collapse, salt and mustard emetics, to excite the system, followed by bleeding, was a favourable mode of treatment. The internal remedies most to be relied on in the stage of collapse may be classed under the heads of revulsives, stimulants, and specifics. The first class, besides emetics of salt and mustard, comprised tartar emetic and croton oil, and calomel in large doses. The effect of each was to check the vomiting and purging; but the last three were remarkable

for their power of restoring the flow of bile, of a dark green colour, when tartrate of antimony and croton oil had been used, and like blue ointment, when the calomel had been given. The action of all three is supposed by the author to be irritating to the mucous membrane of the stomach and bowels, of which it stops the secretion by changing the action of the part. The blood thus diverted from the membrane returns without loss into the portal system, and by the secretion of fresh bile, previously pent up in the gall-bladder, is expelled, the spasm of the duct having been relaxed by the irritation of its orifice, produced by the tartrate of antimony, calomel, or croton oil. The blue colour of the bile when calomel was used may, perhaps, be explained by the decomposition of the salt by the alkali of the bile. From the number of returns in its favour, besides the extensive experience of the author in its use, he is disposed to place most reliance on the croton oil, as its action is simply irritant (many of the patients complaining that it made their throats sore when given in solution or suspension); whereas the tartar emetic is a direct sedative, and hence may be dangerous; and the author had given calomel most extensively in large doses, without ever having seen such effects produced as those which he has mentioned above from the reports of others. Stimulants, after a fair trial, were almost universally condemned; and it is remarkable that M. Magendie had more success with his punch than any other of the Parisian physicians. His great rival, Broussais, was so unsuccessful that he entirely relinquished his care of cholera patients at Val de Grâce. Opium, either in small doses, as a stimulant, or in large ones, as a sedative, was equally unfit to be relied upon. The last class, specifics, comprises calomel, with or without opium, cold water, salines, and quinine, although the author never met with a single case of real cholera in which he could trace the recovery of the patient to the influence of calomel, nor ever observed that it produced any specific effect whatever; still, from the almost unanimous approval it has met with, and his own experience of its benefit in English cholera, he would strongly recommend it in future experiments, as being, at the least, perfectly harmless, though taken in enormous doses. He would also adopt the use of cold water *ad libitum*, upon the faith of the reports in its favour, though his own experience is decidedly opposed to it. Salines, on the other hand, when well diluted, have, besides a number of most favourable reports of their efficacy, this hypothesis in their support, viz. that they restore to the blood, by their endosmosis through the coats of the vessels, if not by their being absorbed directly into the circulation, the saline matter removed by the serous evacuations; whereas the water, if it be not rejected by vomiting, as in the author's experience, could scarcely be absorbed, the tendency of the venous system being to empty itself; nor, if it were absorbed, could it supply to the blood those saline elements of which it had been deprived. In the author's experience, the best mode, though a painful one, of arresting vomiting in all cases, is to keep the stomach empty, when, after a time, it will cease to suffer the action of vomiting, whatever that may be. From an attack of English cholera he suffered, and thus cured, the last efforts of which produced only bloody mucus, as well as from other similar results after emetics—the author believes that the stomach contracts itself during vomiting. Quinine, viewed in reference to the hypothesis of the intermittent nature of cholera, seems worthy of further trial than it has yet experienced. In conclusion, the treatment recommended by the author in the stage of collapse would be the following, and much in the same order as the remedies are stated: cold affusions; hot air; external counter-irritation, and frictions; venesection; mustard and salt emetics; cold water *ad libitum*, or Dr. Stevens' salines; calomel and tartrate of antimony, alternately, in large doses; and, if all failed, croton oil.

II. By Dr. KING.—Dr. King, who had the charge of a large district, during the prevalence of cholera, first employed Stevens' plan of salines, with small doses of calomel and opium; but almost all the cases were fatal. He then pursued a stimulating plan, with a similar result. He ultimately adopted the system recommended and practised by Mr. French. He placed a pail of cold water by the bedside of each patient, and allowed them to drink *ad libitum*; when the patient began to vomit, he considered, as a general rule, that he would do well. He should mention that, in addition to the water, he gave large doses of calomel,

which might have had a share in producing the result. Those who recovered were all more or less affected with the calomel. When hiccups came on, he considered the patient out of danger. He found bile in the evacuations after this treatment, the *scæces* being of the colour of the blue mercurial ointment. He did not think the heart the chief seat of the disease. All pregnant women died. He spoke of the necessity of perfect repose in the treatment of the disease, and stated his belief that many patients had died on removal to the hospital. More success attended those who were treated at their own homes. Croton oil, according to his experience, was not of service. Hot air applications did harm; cold air was preferable. Brandy and all stimulants were injurious.

ART. 3.—*Capsicum Embrocation in Cholera*.—[Dr. Turnbull recommends the above in the following words:]—My plan of treatment consists in endeavouring, by means which can be repeatedly applied without excoriation of the skin, to re-excite an action of heat on the surface of the body, and thereby to restore the lost balance of circulation and nervous energy. For this purpose I employ an extract made of capsicum, with alcohol, reduced to the consistency of jelly. Three drachms of the extract to be well mixed with six drachms of purified lard; the patient to be well rubbed over the abdomen, heart, and calves of the legs, several times a day; and at all times, if there be any coldness over the surface of the body, or when spasm takes place in the abdomen or calves of the legs. The rubbing ought to be continued until such time as the patient expresses that the heat is intolerable. Another form of the employment of capsicum is the following embrocation:—Concentrated tincture of capsicum: viz. capsicum pods, four ounces; rectified spirit, twelve ounces; macerate for a week, and strain. To increase its energy upon the nervous system, when required, I add two or four grains of delphinia, or veratria, to the tincture. Another method of obtaining the advantages of capsicum, speedily, and without much expense—and which may be considered a household recipe for cholera, until medical assistance can be obtained—is to boil four ounces of capsicum in a pint of olive oil, for six hours, and strain. To free the capsicum from the chloride of sodium with which it is generally united, it is necessary to add water, and strain, previously to mixing it with the oil, otherwise it will produce vesication. The chloride of sodium is the chief, if not the only, material whereby vesication is produced when capsicum is used externally.

Lancet, Jan. 29, 1848.

ART. 4.—*Laryngotomy in Typhus Fever*.—Dr. Frey directs attention to the frequent occurrence in typhus fever of lesions of the larynx, threatening fatal obstruction to the glottis. The principal of these are simple mucous inflammation, fibrinous exudation, deposition of typhus matter with its sequelæ, viz. abscess, ulceration, and sloughing of the parts in the neighbourhood of the glottis. He observes that the degree of lividity of the surface is a false measure of the amount of danger, as in typhus the anemic condition of the patient prevents the development of this condition. He is not deterred from operating in cases where any degree of vital power remains, by the fear of hemorrhage or of subsequent supuration, having seen many instances of recovery in circumstances apparently very unfavourable. In one case, however, he has seen the operation unsuccessful indirectly on account of hemorrhage. In this case, the venous oozing having been uncontrolled by the application of ice, the physicians were induced to have the wound closed, on which suffocation soon afterwards recurred. The hemorrhage is, in this case, ascribed by the author to the abnormal condition of the blood.

[Upon this the Editor of the "Monthly Journal" remarks:]

We have had frequent opportunities, in the Edinburgh Royal Infirmary, of observing patients saved from impending suffocation, in the progress of decline of typhus fever, by the timely performance of tracheotomy, which operation is always preferred to laryngotomy there, excepting when the suddenness of the seizure renders a second or two of the utmost importance. A considerable number of the cures have been permanent, and, where death has untimely occurred, it has generally been from secondary consequences, such as the occurrence of pneumonia or pleurisy, or from the natural progress of the fever, rather than from

any circumstances connected with the operation. Hemorrhage has not generally been found to occur to any very considerable extent, and has only been dangerous when the opening into the trachea has been made too wide for the tube, so as to permit of the flow of blood into the respiratory passages. When the deep part of the wound is of limited extent, and the tube is grasped tightly by the opening in the trachea, there is generally no hemorrhage, in consequence of the direct compression of the vessels by the tube. On the whole, the result of experience in Edinburgh seems to show, that deaths occur in typhus much more frequently from the delay than the timely performance of an operation not in itself very serious.

[We do not call in question the accuracy of the above remarks, suggestive of the frequent occurrence of laryngeal complications in fever in Edinburgh, but they are certainly (such at least as would require laryngotomy) far from common elsewhere.]

Zeitschr. für Rat. Med., and Month. Journ., April 1848.

ART. 5.—*Application of Chloroform in Typhus Fever.*—An interesting case of the successful application of chloroform has just occurred in the Bristol General Hospital. The patient, a female about eighteen years of age, exhibited all the symptoms of a bad case of typhus fever. The usual remedies were tried for a fortnight without any beneficial effect. The unfavourable symptoms continuing, the patient being delirious, and the system, in fact, worn out for want of sleep, her life was despaired of. It occurred to the physician, under whose care the patient was placed (Dr. Fairbrother), that chloroform being used in operations to produce a sedative effect, if the patient could be kept influenced by it continuously, it would reduce the too rapid circulation of the blood through the lungs, relieve the difficulty of breathing, and thus become efficacious in subduing the excited state of the brain and system, in such cases, or in others of an inflammatory nature. He accordingly tried the experiment, commencing with ten minims, administered in a cup-shaped sponge, inclosing the mouth and nostrils, but occasionally admitting atmospheric air. About ten minutes were occupied in the inhalation. The soporific state was induced in a few seconds, and continued for about half an hour. In about four hours the chloroform was again administered, the quantity being somewhat increased, and the inhalation was now continued for half an hour. The patient slept from this time (twelve) to four o'clock. She took a little porter, and again slept till eight o'clock. The application was then repeated, and was continued for several days, the quantity of chloroform being gradually increased to twenty-five minims, and the time of inhalation to forty minutes, guided in these particulars by the state of the pulse.

No other medical treatment was adopted; the only other means used being the sponging of the body with tepid water, and applying cold pads to the head, the system being supported by beef-tea, porter, wine, &c., and, to allay thirst, toast-and-water. The patient recovered; the pulse was reduced from 130 to between 70 and 80; the tongue became clean and moist; the skin cool; diarrhoea ceased; the appetite returned, and the countenance regained its natural aspect.

It is a recommendation of this remedy, that so far from its being disagreeable, the patient, after it had been administered a few times, has craved for it.

Lancet, Jan. 29, 1848.

SECT. II.—DISEASES OF THE NERVOUS SYSTEM.

ART. 6.—*Extracts from Andral's Lectures on General Pathology. Semeiotics of the Nervous System.*

(*Medical Times*, p. 355.)

The cerebro-spinal functions may be modified by disease, and we have here to study the alterations of intelligence, of motion, or of sensation.

The intellect may be disturbed in maladies of the cerebral substance or of its envelopes, but not necessarily in all diseases of the cerebral pulp. Observation

teaches us that the intellectual powers are chiefly modified when the cerebral surface is the seat of the disorder—a fact illustrated by almost every case of cerebral hemorrhage or softening. The intellect may be merely weakened slightly, or so much prostrated as to leave the subject in a state of complete indifference to all surrounding objects; or the mind may be disturbed, as in delirium, the co-ordinating link of the ideas being broken by disease. In cerebral hemorrhage we seldom meet with delirium at first, but it is not unfrequent after a few days, when local reaction has occurred. In ramollissement, particularly of the surface, delirium is a more frequent sign. Simple congestion of the brain often produces delirium, and, if the pressure on the cerebral substance be much increased, coma supervenes. We have also occasionally observed intermittent aberrations of intellect due to the presence of accidental productions in the cerebrum. Acute meningitis usually sets in with headache and vomiting, symptoms which are soon followed by a form of delirium remarkable from the agitation which accompanies it; after some time coma replaces delirium. In chronic meningitis, disorder of the intellect is noticed, and some cases of insanity present after death the characteristic anatomical appearances of chronic inflammation of the cerebral envelopes. The delirium of meningitis can be explained either by the propagation of inflammation from the membranes to the brain, or by sympathy of the cerebrum with the affection of its envelopes. When tubercles have formed in the pia mater, delirium often shows itself long before the symptoms of meningitis are manifest. We cannot refuse to admit the existence of one form of delirium, unconnected with any appreciable anatomical change, and resulting from the protracted excitement of intellectual labour, or the preoccupation of absorbing passions. It may also accompany many general disturbances of the system. Thus it arises from the debility produced by repeated hemorrhage, or chronic disease; also, during acute diseases, in subjects accustomed to the use of fermented liquors. The success of a narcotic or stimulant plan of treatment, and the complete failure of depletion in the latter case, prove that the delirium is not then due to inflammatory action. The prolonged influence of toxic agents, therefore, sometimes brings on delirium. We have mentioned fermented liquors: we may also add that the absorption of saturnine preparations has the same effect. This poison produces at first a vague and badly defined form of mental aberration, which soon becomes permanent and complicated by convulsive and epileptiform symptoms. Simple feverishness, in nervous subjects, or in those whose brain is kept in a constant state of activity, will often occasion delirium. Violent pain may also cause it. Some organs seem also to have the privilege of being in their diseases accompanied by this symptom. The womb is one of those. In some instances of painful and difficult menstruation the patients are delirious at each period. Others become partially insane at the beginning of pregnancy; and puerperal mania has been met with frequently by all those who have devoted much attention to the practice of midwifery.

Alterations of motion may be the signs of various affections of the nervous system. We will, in the first place, consider these alterations according to their seat, and afterwards we will study them with regard to their nature.

From the seat of modified motility we may sometimes detect the seat of the disease in the nervous centres; for instance, alteration of motion in both limbs of one side points, in the first place, to disease of the cerebrum, and in the second, to disease of the side of the brain corresponding to that side of the body in which motion has not been altered. This observation not only applies to the cerebrum, but also to the cerebellum, but does not hold good for the pons varolii. It might, it is true, be said that in some forms of meningitis, fluid pressing more upon one side of the brain than upon the other—in tumours occupying the membranes, or in meningeal hemorrhage—the same crossed effects of paralysis will be observed; but these cases are extremely rare: they constitute exceptions, and do not annul the diagnostic rule above established. It has been asserted that pressure of the hemispheres downwards was more prone to occasion paralysis than lateral pressure, and hence that the seat of meningeal hemorrhage or effusion might occasionally be surmised, but the fact itself should not be admitted until further demonstration. In reading attentively the authors who have treated of these subjects, from Valsalva and Morgagni, down to our own contemporaries, perhaps twenty cases

might be collected in which paralysis was found to exist on the same side as the anatomical change within the brain. Of these twenty cases, the greatest number are not sufficiently detailed to be conclusive; but some five or six must be accepted. Morgagni relates one, in which he took every precaution to avoid error. In the "Archives" of July, 1846, M. Bouillon Lagrange published another, accompanied by every detail, and which seems perfectly authenticated. M. Blandin observed one case of the same description, in which the disease occupied the posterior lobules of the brain; and he explained the presence of paralysis on the same side by the anatomical fact mentioned by Gall, viz., that the fibres which run from the medulla oblongata to the posterior cerebral lobules, do not decussate. This remark accounts, it is true, for cases like that of Professor Blandin, but leaves unexplained those in which the alteration occupied the anterior parts of the hemispheres. One limb only may be paralysed from cerebral disease, and the signification of this modification of motion is the same as when the two limbs of one side are affected. It has been often asserted that, when the arm was paralysed, disease of the optic thalami might be inferred, and alterations of the corpus striatum when the motion of the leg was modified. Some facts have been adduced in support of this theory, but a greater number militate against it. When the spinal cord is diseased, alteration of motion in the limbs shows itself in a different manner, both limbs, inferior or superior, being usually affected at or about the same time. In spinal affections the paralysis does not in general take place suddenly: when the four limbs are successively or simultaneously deprived of motion, we are compelled to admit the presence of anatomical change in both hemispheres, in the pons varolii or in the spinal cord. Alteration of the movements of the face indicates disease of the brain, or pressure upon the portio dura; when due to cerebral disorder, it takes place on the same side as paralysis of the limbs. But when the leg and arm of one side are deprived of motion, and when the face is paralyzed on the opposite side, a double cause to these symptoms must be admitted to exist. Alteration of movement in the tongue is caused by disease of the brain; also in the eye: squinting, for instance, is often one of the symptoms of meningitis. Paralysis of the rectum and bladder is more frequent in maladies of the spine than in those of the brain, and usually follows loss of motion in the inferior extremities. It is also, in most cases, disease of the spine which occasions paralysis of the œsophagian, pharyngeal, or respiratory muscles. In apoplexy, however, pulmonary congestion and stertorous breathing are frequently observed. The muscular parietes of the abdomen are not uncommonly struck in diseases of the spine, and, at their incipient stage, by semi-paralysis or spasmodic contraction.

We now turn to the study of the alterations of motion, considered as to their nature. Motility may be diminished or abolished, and it may be perverted; hence two great divisions, which we will successively examine.

When motion is diminished, incomplete paralysis is said to exist; the paralysis is complete when movements are altogether abolished—two conditions which may indicate disease of the nervous centres, of the nerves themselves, or of muscular structures.

In the first place, paralysis may be present without any appreciable anatomical alteration of the nervous centres: when lesions are detected, their nature is often pointed out by the mode of production of the paralysis. Thus, when loss of motion has taken place suddenly, and at once attains its highest degree, hemorrhage has most probably occurred in some portion of the nervous centres: if the hemorrhage or apoplexy be slight, the paralysis is not complete; the contrary occurs if the local damage is considerable. When paralysis increases, even very rapidly, after the first instant of its production, its cause is not to be sought for in hemorrhage, but in encephalitis, followed by rapid ramollissement. Another sign distinguishes the paralysis due to softening from that produced by hemorrhage: it is contraction in the paralysed parts—a symptom which may precede the loss of motion in ramollissement, but is never observed immediately after an apoplectic stroke; when it occurs in cerebral hemorrhage, it is only several days after the seizure, where local reaction takes place within the brain. Paralysis which comes on in very slow and gradual stages is due to chronic softening of the cerebrum, and may also be occasioned by the presence of tumours or morbid productions within the skull, pressure being thus produced upon the cerebrum.

In these various cases paralysis is partial. But diminution of motility has, in one instance, a tendency to become general: observation teaches us that this general paralysis, which begins by difficulty of the movements of the tongue, chiefly observable in the articulation of words, which soon produces inability to raise the feet from the ground, afterwards impedes the motion of the arms, and finally attacks the rectum and bladder, is usually preceded or followed by loss of memory, and more or less derangement of the mental powers; it is very often met with in the insane, and was for a long time considered as belonging exclusively to the history of insanity; but more rigorous researches have clearly shown that it may be quite independent of any alteration of the mind. Authors do not agree upon the nature of the anatomical lesion by which it is caused, and, from the results of our own experience, we are inclined to refer it in general to alteration of the cerebral envelopes, principally to serous suffusion beneath the arachnoid, within the ventricles, and at the basis of the brain. The cortical substance, and even sometimes the medullary texture of the cerebrum, may also be indurated or softened. We believe that, when the cortical substance has been in the first place affected, the symptoms begin by disturbance of the intellect; and that, when the meninges and the basis of the brain have been the primary seat of disease, its first signs are alterations of motility; but we cannot do better than refer you for further information to M. Calmeil's excellent work on the subject. In some cases of introduction of toxic substances into the system, no alteration whatever is found on dissection, and yet paralysis has been present; for instance, persons who have suffered much from saturnine intoxication are subject to delirium and epileptic convulsions, which cannot permit us to doubt that the brain has undergone some modification. These subjects often become paralysed, the extensor muscles of the hands and fingers losing their power of contraction, great pain sometimes existing at the same time in the affected extremities. Again, in hysteria, local paralysis, most fickle in its characters and duration, shows itself frequently. And, as a third instance, we may mention *pellagra*, a disease recently described, which begins by an eruption on the skin, and leads to paraplegia. In this disease, attributed by Dr. Roussele to the use of bad Indian corn, no alteration in the spinal cord has ever yet been detected, nor has any been discovered in the brain of paralysed subjects who had suffered from hysteria or from saturnine intoxication.

Some forms of paralysis are certainly due to local alterations of the nerves. Thus paralysis of the deltoid muscle is frequently the result of pressure upon the circumflex nerve; and paralysis of the face often results from disease of the portio dura. In this latter malady, which sometimes may be produced by a draught of cold air upon one side of the face, the aspect of the countenance is particularly striking: the wrinkles of the forehead on the affected side are effaced; the eye remains open, and the conjunctiva becomes inflamed in all cases, from uninterrupted contact with the air; the mouth is dragged towards the healthy side; the tongue is not deviated. When paralysis of the face is due to cerebral disease, and not to an affection of the nerves, the limbs are usually paralysed also; the tongue is deviated, and we cannot assign a reason for the fact, but the eyelids retain their power of motion. Paralysis may, as we have stated, be the result of a disease of the muscles. This is observed sometimes after rheumatic pains of very great duration, or when a muscle has been kept for a long time in a state of complete immobility; the muscular tissue becomes atrophied, and may for ever lose the power of contracting.

Muscular action may not only be abolished, it may also be perverted: convulsions are constituted by involuntary and violent alternations of contraction or relaxation of the muscles of the body, whether permanent or transitory.

Convulsions may be accompanied by loss of consciousness; they may exist alone, or be attended with other symptoms. We now consider them as solitary expressions of disease. In childhood they are observed as maladies, are brought on by trifling causes, and often leave no anatomical alterations in the organs; but in the adult they are symptomatic of various disorders, result from considerable general disturbance, and usually leave evident anatomical changes to account for their production. The predisposing causes of convulsions are numerous. Thus a great volume of the head, increased irritability of the nervous system, a fair complexion, disturbed sleep, previous ill health, are considered as such in infancy.

Also, acute diseases, great mental emotions, instinctive imitation, hereditary predisposition, said to be handed down from hysterical mothers to their children—possibly, emotions experienced during gestation—may influence the production of convulsions in the child. Diseases of the encephalon, meningitis, morbid productions within the brain, acute encephalitis, must be taken into account, particularly in childhood. The causes of convulsions should be sought for elsewhere: various disturbances occasioned by the evolution of the teeth, gastro-intestinal inflammation, the debility which follows chronic enteritis, foreign bodies in the intestines, e. g., retention of fecal matter, worms, &c., may also produce them. Feverishness alone does not cause convulsions in the adult, but is frequently their origin in the child; one form of pernicious intermittent fever is marked by their presence; a plethoric state, and also, perhaps more frequently in the adult, anemia, excessive hemorrhage—for instance, after parturition—syncope, must all be ranked amongst the causes of the symptom which now engages our attention. Some poisons, such as saturnine emanations, also occasion them; ergotism not only occasions gangrene and inflammation of the gastro-intestinal tube, but sometimes also a convulsive form of disease, which the progress of public hygiene now-a-days renders more rare. Convulsions have followed transfusion of blood, and are said to result in some children from the peculiar qualities of the milk of their nurses (Brachet and Sumner). Excessively abundant secretions, too rapid growth, irritation of the skin, such as that produced by pins incautiously placed in the swaddling clothes of infants, the influence of cold, are counted amongst the predisposing causes of convulsion. This symptom ranks amongst the most serious which may appear during the first stage of eruptive fevers, and is still more important when it follows the disappearance of the eruption, usually denoting at that period internal inflammation. With regard to the organs of generation, we find many of their diseases amongst the causes of convulsions; for instance, dysmenorrhœa, the difficult establishment of the menstrual functions, the accidental suppression of the catamenia; in hysteria they are frequent; onanism may bring them on, and they are occasionally met with during pregnancy and after parturition.

Motion may be perverted in a different manner; morbid muscular contractions may be permanent, as in tetanus. In this disease we cannot possibly admit the constant existence of alterations in the nervous centres, although they coincide sometimes with the malady. In some climates, wounds of the skin frequently cause tetanus, and a congested state of the nerves and neurilemma in the vicinity of the wound, is certainly not a constant appearance. The spinal cord, also, has been found diseased: but the tetanus in such cases was the result, not the cause, of the alteration. Some muscles may be affected with permanent contraction; hence a change of form, or of position, of the part may arise. Muscular contraction may also be a sign of cerebral or spinal softening, but never of mere hemorrhage. In hysteria, it is not uncommon to notice a partial contraction in various parts of the body: it appears and ceases suddenly, or returns without any apparent cause, imitating shortening of a limb, or spinal deformity, and exists only in certain positions. The contracted parts may be swollen and painful. We have seen this symptom last as long as eight months; we have never noticed it in the male sex, nor in women over forty or under twelve years of age. Another form of convulsion which you are well acquainted with is hiccough.

Pain. We now come to the consideration of another sign of the maladies of the nervous system, viz., pain. Pain varies in intensity, in nature, and in seat. Let us examine it under these three aspects. With regard to its intensity, we find that the nature of diseased tissues exercises a considerable influence. Compare, in this respect, the pain of inflammation in serous or in mucous membranes. The peculiar form of disease also modifies the violence of pain. Inflammation is usually accompanied with great suffering, particularly when any constriction exists in the diseased part. Neurosis is often unattended with pain; neuralgia, on the contrary, is always very painful. In acute diseases, more pain exists than in chronic affections; in advanced age, and in the male sex, less suffering is usually complained of during the course of maladies than in youth and in women. Weak subjects and nervous temperaments are peculiarly subject to pain; and in this respect idiosyncrasy creates a considerable difference between individuals. With regard to the nature of pain, it is sometimes comparable to a sense of weight; in

other cases it is attended with throbbing, as in some inflammations, and also in hypochondriasis and hysteria. Lancinating pains are usually referred to cancer, although they seldom accompany visceral cancer. Pain varies in its seat. It may occupy an organ or a nerve. In neuralgia, for instance, the entire course of a nerve is the seat of a constant and dull sensation of numbness, whilst some peculiar spots are the nuclei from which radiate, from time to time, violent lancinating pains. In sciatica, patients often complain of a distressing sensation of cold about the foot and leg; and in such cases, the application of the thermometer has demonstrated to us the positive diminution of the temperature of the limb. Pains may be fixed or movable, continuous or with paroxysms; they may be intermittent, or occur only at night, as it frequently, but not exclusively, happens in syphilis.

Pain must now be examined in the various regions of the body as a sign and a symptom of their diseases. In the head, pain may occupy the cranium or the face. Pain of the cranium may be general or partial, being limited to the frontal, temporal, or occipital regions. Headache may be indicative of disease of the skull or brain, or be symptomatic of maladies seated elsewhere. Pain may be observed on pressure of the scalp in many cases. In the same region a neuralgia is noticed, as in hemicrania and *clavus hystericus*. The cervico-occipital region is frequently occupied by neuralgia. The dull, permanent pain in this neuralgia chiefly exists in three points, viz. at the point of emergence of the occipital nerve, below the mastoid process; in the space which separates the anterior edge of the trapezius muscle, and the posterior margin of the sterno-cleido-mastoid; and on the parietal prominence. The entire lobe of the ear is sometimes painful, and the suffering may spread to the eye, face, and meatus auditorius externus; it has been even propagated to the shoulder and arm. Headache may point to disease of the bones of the skull; in acute meningitis intense headache is one of the earliest symptoms. When tubercular deposits exist in the membranes, pain is complained of long before any other symptoms; during the progress of acute inflammation infants manifest their suffering by a special cry, and by raising their hand towards the painful region. Congestion of the brain and hemorrhage are not usually attended with pain: in softening, pain is usually observed in the neighbourhood of the diseased part of the cerebrum. Headache may, we have said, be produced by maladies which do not primarily affect the head. Thus in feverishness, particularly in that which attends pyrexia, it is almost constant. Thus, in the incipient stage of small-pox and of typhoid fever, headache is one of the most prominent symptoms. Disturbances, even slight, of the gastric functions cause headache. Pains of the face usually occupy the branches of the fifth pair, and seldom both sides together. The inferior maxillary branch with its divisions is that which is most subject to neuralgia.

Pains in the body may be observed in several regions; in the spine, for instance, whether caused by maladies of the envelopes, or of the substance of the medulla spinalis, spinal meningitis more frequently occasions suffering than myelitis. Pain on pressure, or motion, is also commonly met with on the sides of the spinous prominences, and sometimes, at the same time, is accompanied by suffering along the course of the spinal nerves in the neck, chest, or abdomen. This pain and spinal tenderness seem connected with neuralgia (Valleix). Dorsal-intercostal neuralgia is more frequent on the left than on the right side, and is chiefly noticed in the fifth, seventh, eighth, and ninth intercostal spaces. Although a dull sense of numbness exists throughout the course of the affected nerves, the patients complain chiefly of one painful spot in the vicinity of the sternum, of another at the vertebral column, and of a third on the course of a line extending from the centre of the axilla to the crista ilii. In some subjects the pain spreads to the epigastrium, or extends to the arm, forearm, and fingers. Concomitant oppression and palpitations may induce the erroneous belief in a disease of the heart or lungs, which do, however, predispose to this form of neuralgia. Dr. Bassereau considers intercostal neuralgia as invariably connected with a morbid state of the uterus—an opinion which we do not by any means adopt. This disease is more frequent in women; it may last a long time, and baffle the skill of the medical practitioner. We are disposed to admit that angina pectoris and this dorso-intercostal neuralgia are one and the same malady. It may accompany

disease of the heart, or of the aorta; and, in general, we must say, that the name of angina pectoris has been imposed upon a great variety of very different affections. Muscular rheumatism is observed also in the thoracic walls. As to the pains which accompany internal thoracic disease, we have described them when treating of maladies of the respiratory organs, and those of the circulation.

The abdomen may be the seat of pains of various natures. The walls being of a muscular texture, are occasionally invaded by a very distressing sort of rheumatism. Phlegmonous inflammation of the parietes also occasions pain; and this symptom is often met with in incipient spinal disease. The pains of peritonitis and of enteritis have been already noticed in another place.

Pains of the extremities may be idiopathic, as in rheumatism, inflammation, disease of the bones, &c., or symptomatic; the latter only claim at present our attention. At the beginning of acute disease, chiefly of fever, the limbs are the seat of a painful sensation compared to severe contusion. These pains were known to Hippocrates, who says, "*Spontaneæ lassitudines morbos annunciant.*" The same is observed frequently in hypochondriasis and hysteria, and also in general disturbances occasioned by alterations of the blood, plethora, scurvy, saturnine intoxication, &c. Softening of the brain and disease of the spinal cord frequently cause them. In diseases of the digestive tube pains are often noticed in the limbs, and also cramps. They are often induced, for instance, by "*embarras gastrique*," by diarrhœa, and their existence is usually denoted in Asiatic cholera. It is not so in diseases of the respiratory organs, but they are frequent in maladies of the circulation. In gangrene of the extremities, connected with vascular obstruction, patients complain, in general, of very violent pain in the limbs.

ART. 7.—On certain Forms of Headache. By Dr. MURPHY.

(Reported in *Medical Gazette*, Dec. 10, 1847.)

[In an essay read before the South London Medical Society, the author described the following varieties of headache: 1st, Periosteal headache; 2d, Rheumatic headache; 3d, Nervous headache; 4th, Anæmic headache; 5th, Congestive headache.]

1. Periostitis of the cranium is seldom met with unless after a mercurial course, in a scrofulous constitution, and is generally found to invade either the coronal or parietal bones. The diagnosis of headache arising from this cause, although not difficult, has sometimes been erroneous. The pain is severe, and confined to one or more of the localities above mentioned; it is increased at night in bed, by stimulating drinks, and by pressure. A raised surface can be detected at the site of the pain, and on inquiry it will be found that more than one course of mercury has been given. The treatment should consist in the application of the emplastr. hydrargyri spread on thick leather, and the exhibition of the iodide of potassium with morphia and tincture of digitalis.

2. Another form of headache is the rheumatic or fibrous, which is located in the tendon of the occipito-frontalis, the temporal aponeurosis, and tendinous insertions of the muscles at the back of the head. It is usually preceded by rheumatism of other parts, and is increased by muscular movements. Warm coverings, when they can be applied, usually relieve it, also sinapisms: and, if the pain is very severe, leeches and cupping, and a few doses of calomel with opium, seldom fail to give relief. Gout may also attack the same parts, but may be diagnosed by our previous acquaintance with the habits of our patient. In both cases the pain is intermittent, changes its locality, and is felt to be external, and the health is not affected.

3. The next form belongs to the class of spinal irritation, is very frequent, and met with exclusively in females during the menstrual periods, and attacks mostly the left side of the head; the pain is intermittent, shooting, and lancinating: may be fixed for days, and is most severe at the temple (when it is termed *clavus hystericus*), and next at the parietal protuberance and occiput; it proceeds from the sub-occipital nerve, and, if the exit of the nerve is pressed upon, pain, more or less severe, is complained of, extending along the whole course, or at certain sites only of the nerve—as at the temple, nape of the neck, parietal protuberance, &c.; it is usually increased during the menstrual period, and is generally a

complaint of unmarried females, between the 23d and 35th years of life, and is indubitably a form of hysteria. The menses are usually profuse or difficult, the bladder irritable, and there are ill-defined, painful sensations about the pelvis; and three forms of neuralgia coexist. The irritation of the sub-occipital nerve must be traced to the ovaries, being only present where these exist, and while capable of fulfilling the function of menstruation; and our treatment must be primarily directed to remove any congestion, or irritation of these peculiar organs; and, secondarily, to lessen the pain of the nerves. The author advises the daily use of hip-baths, or sea-bathing, where possible; attention to prevent accumulation in the rectum; abstinence from stimulants; mental employments; inf. valerian c. digitalis, with pills of assafoetida: occasionally, general or only local bleeding; and when these fail, a gentle mercurial action, the cold bath being during the time omitted. As local means, he recommends belladonna plasters, veratrine ointment, sinapisms, or blistering. When, however, the patient is exhausted by leucorrhœa or profuse menstruation, with symptoms of chronic inflammation of the womb or ovaries, the treatment becomes more doubtful; but the author prefers the trial of a tonic treatment, and advises the exhibition of the valerianate of zinc and quinine as especially efficacious, and the sulphate of iron in infusion of valerian when there are evidences of confirmed chlorosis. This headache may be termed the *nervous* headache; it also assumes another form, which may be termed the *cutaneous* headache, and is the hemicrania of our forefathers: it seems to be located in the integuments of one half—usually the left side—of the head, which is so exquisitely sensible as scarcely to bear the least touch of the finger, and the pain never passes the mesial line.

4. Another form of headache is that arising from deficiency of blood within the cranium, and coming on after hemorrhages, exhausting discharges, or any other debilitating causes: the best examples arise in chlorosis. It is increased by the erect, diminished by the recumbent posture; is not a very painful form, but is often attended with impaired vision; its cause may be traced to diminished muscular power of the heart, which palpitates on slight exertion; there are also dyspnoea, pale face, and other symptoms of a feeble circulation, with a sinking pain at the epigastrium, and craving appetite. If the true cause of this headache be mistaken, and depletion used, paralysis has been known to supervene; but if the debility be removed, the muscular power of the heart is easily increased, and the most useful remedies are, steel by itself or combined with quinine, full diet, and the recumbent posture.

5. The last form of headache alluded to by the author arises from excess of blood, and may exist as a passive or congested, or as an active or inflammatory state. The former, arising from various known causes of congestion, is diagnosed by the constant heavy pain at the anterior part of the head, increased by the recumbent posture, sense of chilliness, slow, feeble pulse, tendency to vomiting, and pain in the lumbar region, caused by congestion of the spinal cord. It is a dangerous form of headache, and has, in the depressing diseases, proved fatal in a few hours; but in other cases has lasted weeks without much mischief. The treatment should be to induce reaction as soon as possible by the warm bath or an emetic. If the headache persists with hot skin, leeches to the inner nares will be found of value; applied to the temple, they debilitate without relieving the pain in the head, and they are altogether inadmissible when this co-exists with typhus or scarlatina. Blisters may also be applied, and diaphoresis produced by the usual means; cold applications to the head the author considered useless, and even likely to increase the congestion. Care is also requisite that mere congestion should not, by the use of stimuli, be forced into inflammation, which is the next stage, if resolution or fatal termination does not take place. The author regards idiopathic phrenitis as a most rare disease, and hydrocephalus acutus as congestion, not inflammation. Phrenitis is well marked by the tensive pain increased on stooping, by the bright eye, hot skin, nausea and vomiting, tendency to delirium, and occasional twitching of the muscles of the face; the most active antiphlogistic measures should be used.

There were other forms of headache easy of diagnosis, but of these the author would only mention the constant pain of the head in children, with emaciation and want of sleep, and which diagnosed tubercles of the brain. In the headaches

of pregnant females, referred to the centre of the head, and attended with a remarkably small pulse, and in which, if bleeding is neglected, convulsions, abortion, and too often death, are apt to supervene; and, lastly, the pain of the head occurring after a night's debauch, the cause of which, whether in the stomach or affected organ, the author considered not to have been sufficiently investigated.

ART. 8.—Headache caused by Inflammation of the Frontal Sinuses.—M. Mombert was accidentally led to the appreciation of this cause of headache by the observation of a friend who was attacked with violent frontal headache, which lasted the whole day and departed towards night, again to recur with equal severity in the morning. Several physicians had prescribed for the patient without advantage. One morning, in the excess of his pain, he rubbed his forehead so violently with a clothes-brush that he completely took the skin off, leaving a sore, which remained for some time. From this period the headache entirely subsided. Instructed by this case, M. Mombert treated a patient labouring under similar symptoms by applying a blister over the frontal sinuses; the result was equally fortunate.

M. Mombert believes that this form of headache arises from catarrhal inflammation of the frontal sinuses, and thus the affection may be readily cured by counter-irritation, applied as in the above-mentioned instance.

Viertel Jahreschrift für die Pratisch. Heilkunde, and Prov. Journ., April 5.

ART. 9.—Treatment of Apoplexy. By Mr. SOLLY.—In the treatment of apoplexy, the first thing to determine is not so much whether the effusion is serous or sanguineous, but whether it is of a sthenic or asthenic character; whether our patient will bear depletion, or whether the disease itself is the result of exhaustion. With regard to our diagnosis of the seat and nature of the effusion, this is more important in relation to our prognosis of this disease than our treatment. The author does not mean to undervalue careful diagnosis in these cases; on the contrary, he considers it of the greatest importance, and no pains can be too great which will assist us in coming to a right conclusion. In these cases the friends are, he observes, extremely anxious, and our prognosis, whether favourable or otherwise, must depend on the conclusions we arrive at regarding the cause, the seat, and the nature of the effusions. If the cause of the effusion be extreme plethora, and some accidental circumstance, such as posture, or straining at a stool, without any disease of heart or vessels, then our prognosis might be favourable. If the seat of the effusion appears to be at the base of the brain, but not near the medulla oblongata, then it may possibly be remediable. These are merely illustrations of the fact, that though our treatment may be the same where-soever the effusion may have occurred, and, in many instances, howsoever it may have been produced, our diagnosis ought yet to be made with the same care, and is of nearly the same value as if our treatment depended upon it.

Our resources, in all cases, are few and simple. First in the list stands blood-letting, the most valuable remedial agent in some cases, the most dangerous in others. Many a valuable life has been saved by the prompt and free use of the lancet—more have been hastened into eternity by its indiscriminate use.—(Pp. 536, 553.)

ART. 10.—Treatment of Delirium Tremens without Opium.—[Mr. Corfe states that he considers delirium tremens to be of hepatic origin, and that it is successfully treated by calomel purges. His words are:]—"It should be observed that every case of threatening delirium tremens is preceded by more or less biliary derangement; and, as these men rarely enjoy active or healthy secretions from their alimentary canal, it does appear, from the observation of a large number of cases in this hospital, that the disease is purely hepatic in its origin. This opinion is entertained by Dr. Seth Thompson, who has most successfully treated some of the worst cases of this disorder with large and repeated doses of calomel, followed by brisk cathartics; and he has never been obliged to resort to opium at all, sleep having succeeded the active unloading of the hepatic system. It has long since struck my mind that the invasion of the disease springs from a sudden, or, it may be, a gradual poisoning of the blood, by means of a chemical alteration in the

bile and urine; and that some of the elements of one or both of these secretions are carried through the circulation. My chief reasons for drawing these conclusions are the following:—Since I have had an opportunity of watching the admirable practice of the above-named physician, the disease has given way, in a most decided manner, under sharp purgation with calomel, &c.; and the improvement is invariably coexistent with the passage of numerous dark, offensive, and deeply-bilious evacuations. The onset of the disease is ushered in with loss of appetite, foul tongue, giddiness, nausea; and, in an effort to throw off some of the morbid cystic bile, sickness and bilious diarrhoea may probably set in also. Again, a very large number of cases, and those of the worst form, present themselves with symptoms of poison by urea. It is stated that they have had one or more fits; these fits are distinctly epileptic, and exactly resemble those attacks which sometimes occur in persons labouring under albuminous disease of the kidney, and in whom the disappearance of urea from the urine, and its presence in the circulating fluids, have been repeatedly detected by Dr. Christison and others. In fatal cases of delirium tremens an epileptic fit is often the forerunner of death."

ART. 11.—*Ethereal Inhalation in Delirium Tremens.* By Dr. UPHAM, Boston.

(*Prov. Med. and Surg. Jour.*, Dec. 15.)

William Perry, an Irishman, 48 years of age, is of sanguine temperament, strong and robust frame, and has generally enjoyed firm health. He is an oster by occupation, and has been a man of intemperate habits for many years. On Monday, July 12th, he was committed to the House of Correction, having for several days previously been drinking very freely, according to his own statement. On the same day he presented himself to the hospital as an out-patient, for treatment of chronic ulcer on the leg. At that time he showed no indications of delirium tremens, with the exception of slight tremors, manifested particularly about the hands. Towards evening he grew wild and uneasy; tremors increased, and became general. Slept but little during the night, and was found next morning in a state of high excitement, with tongue thickly coated, pupils dilated, lids tremulous, muscles universally agitated, pacing his cell, talking incessantly, and raving incoherently.

During the following twenty-four hours the patient showed all the usual symptoms of delirium tremens in a marked degree. He slept none, but walked the floor without intermission, talked disconnectedly, and, as is usual in like cases, busied himself in the performance of imaginary tasks. He was constantly pressing against the walls of his cell, or endeavouring, with the fancied assistance of horses, to remove the iron door. Meanwhile, if questioned, he would answer to the best of his ability, and obey directions with alacrity for the moment, but immediately relapse into his previous state of delirium. This, at times, assumed a violent form, so that it was deemed necessary to take away his bed, and all other moveable articles within his reach, and keep attendants by him day and night, to protect him from injury. For the succeeding forty-eight hours this state of things continued with but little variation, all the grave symptoms increasing in severity.

The usual treatment having failed, and large and repeated doses of morphia proving utterly powerless to produce sleep, the patient was found, on Friday morning, still in a state of wakefulness and high delirium, but so much exhausted as to make it a matter of the highest moment to induce sleep immediately. In this condition it was thought expedient, as a last resort, to make trial of ethereal inhalation; and the ether was accordingly administered by the sponge.

The patient was very refractory, and required to be held by assistants, in the meanwhile struggling, raving, and cursing. After inhaling the vapour for the space of ten or twelve minutes, he appeared quiet, and was thought to be fully under the ethereal influence; but upon the removal of the sponge he sprung up, and commenced raving anew. The process was repeated, and continued for ten minutes more; at the end of which time the patient was brought fairly under the desired influence, and fell asleep. From this state of artificial sleep he passed, without waking, into a quiet, deep, and untroubled slumber, which continued,

without intermission, for four hours and a half. He was seen several times during the continuance of this sleep, and within a few minutes after he awoke. He then appeared perfectly rational, called for cold water, and asked to have his leg dressed (he had bruised it badly during the delirium). In the course of half an hour he fell again, as was anticipated, into a quiet sleep, which continued, with few intermissions, during the afternoon and night. This morning (Saturday) he appears perfectly rational and well, though weak. Has no recollection of anything that has happened from nightfall on Monday to the time of his first waking on Friday afternoon.

ART. 12.—Treatment of Chorea by Tartar Emetic.—M. Salgues, of Dijon, had recourse to tartar emetic, in a case of chorea of five years and a half standing, and which had resisted valerian, oxide of zinc, purgatives, cold baths, and narcotic frictions of the spine. For a week, thirty centigrammes were given daily, in a drink. The first dose produced strong vomiting, and an abundant diarrhoea; the others caused no apparent effect, with the exception of an anorexia, and the cessation of the chorea. The fourth day ten leeches were applied to the neck to diminish a slight cerebral congestion. A permanent cure followed.

[The same treatment has been found useful by Dr. Seth Thompson, as appears from the following extract. Mr. Corfe says:]

The oldest person whom he ever saw with this disease was recently a patient in this hospital, under Dr. Seth Thompson. She was a married woman, twenty-eight years of age, and had been frightened by a strange cat jumping on her back. The excitement of the nervous system was more alarming than he ever remembered to have witnessed in aggravated cases of this nature. But the violence of the symptoms rapidly subsided under the steady and repeated exhibition of tartar emetic, in large doses. Dr. Thompson commenced with half a grain every hour, for eight or ten successive doses, and then he continued it, in the same quantity, every four, and subsequently every six hours, when she obtained tranquil and refreshing sleep, and gradually improved under this treatment alone, and left the hospital perfectly well.

Medical Times, Jan. 1.

ART. 13.—Tetanus successfully Treated by large Doses of Quinine. By Dr. BISHOP.

(New York Journal of Medicine, Sept. 1847.)

[The following case is a marked instance of the sedative powers of quinine in large doses, and exhibits a line of treatment which merits a repetition.]

Dr. Bishop was called to see a blacksmith, who had run a rusty nail into the hollow of his foot, and found him (August 10) with the symptoms of confirmed tetanus, viz., opisthotonos, paroxysms occurring every three or four minutes, pain agonising, perspiration very profuse, difficult deglutition, pulse 84; can separate the jaws half an inch; respiration hurried. He incised the wound, and applied the actual cautery. Ordered: *R.* Calomel, Ext. col. comp., aa. gr. v; *Ol.* croton, m.j. ft. M.; a pill to be taken immediately. *R.* Sulph. quinine, gr. xv; Sulph. morph. ʒ gr.; Syr. symp. q.s.; to be taken some two hours after the pills. To rub the following liniment along the whole length of the spine: Sulph. acid, 1oz., *Ol.* oliv. 2oz.

Morning. Evacuations had been copious, secretions very much depraved; quinine and morphine had the effect, in the course of a few hours, of lengthening the interval between the spasms to five minutes; pulse 75, pain much diminished, distress at the pit of the stomach quite severe, which might have been aggravated by quinine, as is sometimes the case. Has some desire for food; to take strong beef-tea, with brandy, during the day.

[Without going further into details, these medicines had a decided effect upon the disease from the beginning. The same treatment was continued for five days, with occasional variation as it regards time and doses, as circumstances seemed to require; kept up irritation to spine.]

Sixth day. Owing to a suspension of the quinine and morphine for ten hours, all the symptoms increased rapidly; they were again given in as large doses as at first, with the same happy effect. The wound healed rapidly; and on the

eleventh day the patient could open his mouth. On the twentieth day the spasms finally ceased.

ART. 14.—*Ether in Tetanus.*

By THOMAS HOPGOOD, Esq., M.R.C.S., Chipping-Norton.

About the middle of last November, a little boy, named John Stanley, nine years of age, had an incised wound on the knuckle of the index finger of the left hand, which had slightly injured the tendon of the extensor indicis. The wound was shown to me on the 20th, and it had then a very unhealthy appearance. The joint was much swollen, and a serous fluid was oozing from the cut. The directions I gave were not attended to, and I saw no more of the boy until the 27th; on that day I found that the wound had healed, but there was a great deal of irritative inflammation in its neighbourhood. The general symptoms were most alarming. He complained of a dragging pain at the pit of the stomach, and the impossibility of keeping his hand still. There was continual catching of the left upper extremity; slight twitchings of the muscles of the face; pain in the head, and loss of vision. The tongue was clean, skin rather hot, and the pulse nervous and accelerated. Deglutition was difficult, and the respiration oppressed.

I tried various local and general remedies, but at the end of four-and-twenty hours the little fellow's symptoms had increased in intensity, although some temporary relief had been afforded by the shock of cold water dashed over him. The muscles of the jaw and neck were now in a state of rigidity, and so were those of the upper and lower extremities. He shrieked out repeatedly from intense agony.

Under these circumstances I determined to try the effect of the vapour of ether, as a last resort. Having adjusted Startin's pneumatic inhaler, and found it to act properly, I poured three drachms of ether into the receiver. A slight cough was caused by the first inhalation, but in rather less than three minutes my little patient was fairly under its influence, and remained insensible for nearly a quarter of an hour. It was delightful to see the countenance of the boy change from that of anguish to one of tranquillity and ease. The spasmed muscles were completely relaxed, and from the time every symptom abated, he had occasional returns of the twitchings, but they were invariably removed by the inhalation. In a short time he perfectly recovered.

Medical Times, Jan. 15, 1848.

ART. 15.—*The Actual Caustery in Neuralgia.*—M. Notta adduces thirteen cases in illustration of the value of this form of counter-irritation. Of these, two were instances of intercostal neuralgia, ten of sciatica, one of facial neuralgia. Half the patients were robust, the remainder debilitated and impoverished. All were well-marked instances of neuralgia, that is to say, there were points painful on pressure, and darting pains along the course of the nerves; these pains were severe, and sleep was more or less disturbed in all the patients. Of the patients labouring under sciatica, six were quite unable to walk, and four only had received any benefit from previous treatment. In all these cases the cauterization was conducted as follows:—The patient being placed in a favourable position, was rendered insensible by etherization, and the affected part was crossed two, three, or more times with a thin iron, heated to whiteness, after which it was covered by compresses, dipped in cold water. The caustery produced brownish lines, which, the day after, became dry and crisp, and eventually desquamated. The subsequent pain was inconsiderable.

In respect to the effects of the cauterization, it may be stated, that the most remarkable was the notable relief of the neuralgic pain. In five or six hours the limb could be moved with facility, and the following night was tranquil; in the course of twenty-four or forty-eight hours the darting pains disappeared. Of the thirteen patients in whom it was tried, ten were perfectly cured, two were much relieved, and in one only was there no improvement.

Union Médicale, Oct. 1847.

ART. 16.—*Treatment of Facial Paralysis.*—Mr. Corfe, in speaking of the treatment of these cases, observes:—"But this only I am anxious to notice, that of all

the recent discoveries in the practice of medicine, the application of the Lin. olei Tiglii is a most efficacious remedy, applied with a camel's-hair brush along the course of the seventh nerve, as it emerges from the skull. The pustular eruption and irritation which it produces are rapid, evanescent, and readily controlled. The effect has been surprising in some instances, but at the same time, active purgation has been kept up by calomel and drastic purgatives. This treatment was first suggested to my mind by witnessing the astonishing influence of this counter-irritation, so admirably followed out in other diseases by our talented assistant-physician, Dr. R. G. Latham.

Medical Times, Oct. 23, 1847.

SECT. III.—DISEASES OF THE RESPIRATORY SYSTEM.

ART. 17.—*Extracts from Professor Andral's Lectures.—Semeiotics of the Respiratory System.*

(*Medical Times*, Jan. 1848.)

Signs furnished by the Respiratory Organs—The manner in which respiration is accomplished furnishes occasionally a clue to the diagnosis of disease. For instance, costal respiration is observed when the contractions of the diaphragm are attended with pain; and, on the contrary, the respiration is called abdominal, when respiration is almost entirely performed with the assistance of the movements of the diaphragm, the elevation of the ribs being partial; when a stitch exists on one side of the chest, that side remains immovable during respiration.

In the healthy state, from eighteen to twenty-four aspirations may be counted in one minute. This number seldom rises to twenty-eight, or descends to twelve. But in disease, respirations may be much accelerated or slackened. Thus, in the meningitis of children, and in some cases of hysteria, it often descends below the average. When the number of inspirations observed in one minute is above thirty, a morbid state of the system may be asserted to exist. They may rise as high as eighty, and even be more frequent than arterial pulsation in the same subject. Simple febrile excitement accelerates respiration, but never increases the number of inspirations to more than thirty-two in one minute. If thirty-six inspirations be counted, disease of the heart or respiratory organs is exceedingly probably; if more than thirty-six, it is certain that some disorder of the kind is present.

All the causes which interfere with the free introduction of air into the chest accelerates respiration, whether the obstacle be seated in the larynx, trachea, bronchi, or in the lungs. Thus, in acute pneumonia, the respiration usually rises to thirty-two or thirty-eight; if it attains fifty, the case is almost invariably fatal. This happens in the adult; but in children under two years of age affected with pneumonia, you will often find sixty, and even eighty inspirations in one minute. In consumption, the respiration becomes greatly accelerated only in the last stage of the disorder; it frequently averages thirty. When, in cases of phthisis, the respiration becomes suddenly very much quickened, one of three occurrences is to be feared, viz., pneumonia, a rapidly forming pleuritic effusion, or pneumothorax. In pleuritis, acceleration of the respiration may be due either to the intensity of the pain in the side, or to the abundance of the effusion within the chest. When the morbid secretion has taken place in both pleural cavities, the frequency of respiration is greatly increased; but if, on the contrary, it has formed slowly, and only on one side, although very abundant, it causes only a very trifling increase of the number of inspirations, particularly if the patient be observed in repose. Abundant effusion in the cavity of the abdomen often augments the frequency of respiration, and the same is noticed in most diseases of the heart and of the organs of circulation. The nervous system has considerable influence over the phenomena which now occupy us; observe, for instance, the effects of mental emotion upon the respiration. In women we should not give quite the same prognostic value to increased frequency of respiration as in men; in the female,

a simply nervous disturbance, as in hysteria, may raise the respiration to sixty—a fact which we do not meet with in the male sex.

Respiration may not only be modified in its frequency, but also in its depth. The inspirations may be shorter or deeper, according to the state of the lungs. For instance, in pulmonary emphysema the respiration seems to be very deep—we say seems, because the depth is in these cases more apparent than real; the chest is elevated by a strong effort of the patient,—it is not, properly speaking, dilated, but the energy of the effort would easily lead an inattentive observer into error.

The regular succession of the respiratory movements may also be modified by disease; thus, in the convulsive period of acute meningitis, particularly in children, respiration becomes irregular and even intermittent. The passage of the air through the respiratory organs is silent during health, but in disease it may be attended with various sounds, generated in the larynx, trachea, or bronchi. In the larynx we may hear sounds during inspiration, or during expiration; the rhonchus produced by œdema glottidis accompanies expiration. These sounds are the result of a diminution in the diameter of the larynx, from hyperemia, swelling of the vocal chords, false membranes, tumours, or merely spasmodic contraction. Ulcers of the trachea, particularly if their edges be fungous, and if they are seated near the bifurcation, often give rise to morbid sounds during the passage of air through the tube; compression of the trachea by tumours, aneurism of the arch of the aorta, for instance, has the same effect. Further, we may hear, without applying the ear to the thoracic walls, morbid sounds originating in the bronchi, and also friction taking place in the pleura.

When the respiration is modified in these several manners, the patient experiences a sort of uneasiness, which has received the name of *dyspnœa*—a symptom towards which I must now call your attention.

Dyspnœa has several degrees; it may exist only in motion, or even in ascending motion, or it may also distress the patient when he is in a state of perfect repose; it then bears the name of *orthopnœa*. When *dyspnœa* is violent, the inspiratory muscles being insufficient for the purpose of dilating the chest, many other muscles lend their synergetic assistance, even those of the face, the contractions of which may enlighten the diagnosis, in giving to the patient a particular physiognomy characteristic of the disease; thus the movements of the *alæ* of the nose in the *dyspnœa* caused by pneumonia are most remarkable.

This symptom, being common to most diseases of the respiratory organs, cannot assist in distinguishing them from each other. We meet with it in diseases of the larynx, and it is always in proportion with the degree of obstruction existing within the air-passages. When tumours press upon the trachea, as in some aortic aneurisms, the oppression is occasionally excessive. In diseases of the bronchi we find *dyspnœa* again. For instance, in acute capillary bronchitis it is often more intense than in pneumonia; and in chronic capillary bronchitis it may become extreme with any temporary exacerbation of the malady. Hypersecretion from the bronchial mucous membrane also occasions much oppression, whether it occurs in acute bronchitis, or at the close of a certain number of acute or chronic disorders. Let us add that this hypersecretion may result from general debility; and, therefore, in the treatment of disease in general, we should carefully abstain from lowering the vital powers of the patient beyond a certain point, as the production of this accident might thereby be facilitated. In pneumonia, *dyspnœa* always exists. It may be slight, as in that form of inflammation of the lungs which often intervenes during the course of typhoid fever, but may also acquire a considerable degree of intensity. Consumption causes an amount of *dyspnœa* which is always proportioned to three conditions, viz., the number of the tubercles, the pulmonary alterations by which they are surrounded, and the rapidity of evolution of the morbid deposit. Sometimes long before any permanent cough is observed, the patients complain of a sense of oppression; in most cases, on the contrary, the *dyspnœa* is very slight during the incipient stage of phthisis; but if the tubercles are rapidly formed, as in acute phthisis, the oppression is excessively considerable. Pulmonary emphysema is not necessarily accompanied by *dyspnœa*, except in its advanced stage. In a very large number of cases, patients suffer from oppression only at very distant intervals, these intermittent attacks of asthma being referable to periodical attacks of bronchitis. But when emphysema has

lasted some time, and acquired a considerable development within the chest, oppression becomes intense and continuous, no fresh attacks of bronchitis being necessary for its appearance. The countenance of the patient is swollen and livid, the lips take a purple hue, and the physiognomy resembles that of persons suffering from disease of the heart. In pulmonary apoplexy, whether idiopathic or depending upon an alteration of the central organ of circulation, the degree of dyspnoea depends entirely upon the intensity of the apoplexy. In diseases of the pleura, dyspnoea may either be the result of the pain, by which the respiratory movements are impeded, or depend upon the pressure exercised upon the lung by effusions within the thoracic cavity. The former cause is more frequently productive of oppression than the latter. Indeed, in chronic pleuritis considerable secretion may have accumulated within the chest without any perceptible difficulty of breathing. But when the effusion has taken place very rapidly, when it is extremely abundant, and not only causes dullness on percussion of the posterior parts of the chest, but also of its anterior region, or when the morbid deposits have been formed on both sides, then oppression, more or less considerable, never fails to appear. Simple pleurodynia may occasion extreme oppression. Diseases of the heart may be said, in general, to be accompanied with dyspnoea—a remark which allows, however, numerous exceptions; for instance, valvular insufficiency of the aorta seldom causes any difficulty of breathing. In acute rheumatism we sometimes hear at the first bruit a murmur indicative of endocarditis, and still no oppression is complained of. But when disease of the heart causes disturbance of the pulmonary circulation, dyspnoea is a constant symptom. We should also add that towards the close of diseases of this nature, the bronchial secretion is usually much increased, and œdema of the lung supervenes—circumstances by which the tendency to dyspnoea is much augmented; ascites, abdominal tumours, or tumours developed within the thorax, may also become mechanical causes of oppression. In plethora and in anemia we find a certain amount of dyspnoea; and in nervous subjects it may be produced merely by emotion. In hysteria we meet with it as a very ordinary symptom. We must, however, distinguish two sorts of nervous dyspnoea. In one, it is caused by a disturbance of the cerebral influence over the respiratory organs; in the other, by a disease affecting the par vagum, and through that nerve the lung, to which the pneumogastric is partly distributed. Nervous dyspnoea is often very slight, occasionally violent, and frequently intermittent. We cannot, from the results of our own experience, doubt the existence of a purely nervous form of asthma, the attacks of which, often repeated, bring on readily the pulmonary alterations characteristic of emphysema.

Alterations of the voice are observed in disease, and may assist in its diagnosis. The causes of its changes may be seated above or below the larynx. We are acquainted with the special modification produced in the voice by perforations of the palate or enlargement of the tonsils; a slight alteration of the vocal chords changes its tone, and bronchial or pulmonary affections also modify it. Further, we find in nervous diseases the voice changed or suppressed, whether the malady occupy the nervous centres, or merely consist in a pressure exercised upon the course of the laryngeal nerves by some tumour or morbid production. We may say that all the causes which diminish the volume of the column of air to be expelled through the larynx during expiration modify or weaken the voice—a fact often observed in the very earliest stages of pulmonary consumption. In croup we usually find the voice suppressed. The larynx may also be affected with special neurosis, a sort of chorea confined to its muscles, the chief symptom of which is a sort of barking or involuntary emission of voice.

Cough is a symptom of great importance. We find it in diseases exclusively limited to the respiratory organs, and also in others which invade the chest only in a secondary manner. With regard to the former, we find cough with special characters in croup; it is not necessary to expatiate upon its barking sound. You are also acquainted with its tone in whooping-cough, in which a crowing inspiration is followed by several successive attempts at expiration. In bronchitis cough is also present—dry at first, loose in the second stage, and often more troublesome than in inflammation of the lung. Coughs do not always precede the formation of tubercular matter in the chest. During the first periods of phthisis, patients are

subject to frequent coughs, which at last become permanent. In some cases the permanent cough is observed from the beginning. It is a prevalent opinion in the unprofessional public that dry coughs are more characteristic of incipient phthisis than coughs attended with expectoration. We need hardly add that this is a mistake. A sense of heat and tickling in the throat is frequently complained of by patients, and some are also affected at the same time with a deep-seated pain within the chest. In pleuritis, cough is often subordinate to the existence of pain in the side; it is always a dry cough. Pulmonary emphysema is productive of a sort of cough, which has the characters of that of bronchitis. We said that this symptom might be noticed also in diseases, one only of the elements of which is to be sought for in the respiratory organs. Thus, amongst pyrexias, we find that measles are always attended with more or less cough, which sometimes precedes, and always accompanies, the prodromic fever, persists throughout the eruption, and usually decreases after its cessation. If it should last any length of time after the eruptive fever, it calls for some attention on the part of the medical practitioner, as it may be the starting-point of emphysema or pulmonary consumption. On auscultation of the chest, in the bronchitis of measles, seldom are any rhonchi detected. In the bronchitis of typhoid fever, on the contrary, sonorous and sibilous râles may be almost always heard in the chest. Sympathetic coughs have also been often noticed, expressive of the participation of the nervous system of the lungs to sufferings of the liver or stomach. Tænia is sometimes productive of a very troublesome nervous cough, which ceases when the worm has been expelled. In some hysterical patients we occasionally find an obstinate cough, merely produced by nervous disturbance.

Expectorated substances may vary in their nature, and in their origin. We will enumerate the various matters which may thus be rejected. Mucus, always arising from the respiratory organs; blood, which may come from the mucous membrane of the bronchi, from the pulmonary parenchyma, as in pneumonia, phthisis, pulmonary apoplexy, or gangrene of the lung; from an aneurism of the aorta, and in this latter case the blood is not always rejected at once in large quantities, but may for a certain number of days be expectorated in filaments, mixed with bronchial mucus. When the blood expelled from the lungs is rejected soon after extravasation, it is scarlet, fluid, and spumous; but if it has remained in the bronchi some time after exhalation, it may be dark and coagulated. A portion of this blood may also be swallowed, and afterwards vomited—a fact which may lead to some doubt as to its origin. Pus is frequently found in the expectoration. It may have been generated on the mucous surface of the bronchi, or in an accidental cavity formed in the lung after consumption or gangrene. An abscess collecting in the pleura may also be evacuated into the bronchi, and discharged by expectoration. The abscess may be seated in the neighbourhood of the respiratory organs, in the bronchial ganglions, for instance, or in a distant viscus, the liver, or kidney (Rayer). False membranes are sometimes expectorated. They are mostly formed in the larynx, but may have been secreted in the trachea or bronchi. Tubercular matter, originating in the lungs, or in the bronchial glands, particularly in children, should not be omitted in the enumeration of expectorated substances. Melanic matter has also been found, but more frequently a dark matter, identical with charcoal in a state of extreme division, and only in persons exposed to the inhalation of this substance. Let us also mention cancerous matter; hydatids, more generally coming from the liver than from the lung; cretaceous calculi; the residue of cured tubercles; remains of pulmonary or bronchial tissue, detached in tubercular or gangrenous cavities; such are the various substances found in the expectoration. In one instance, in which the stomach communicated with the spleen and the lungs, we met with the contents of the stomach in the expelled matter.

In acute laryngitis, simple mucus is ejected. When pus is suddenly thrown out, it indicates submucous abscess. In chronic laryngitis, blood, expectorated in small quantities, indicates an ulcer of the mucous membrane; if the amount of blood be at all considerable, its source is not in the larynx. A chronic form of croup has been described, in which the patients cough up false membranes; and this circumstance often exercises a most favourable influence upon the progress of the malady. Polypous concretions, and vegetations formed in the laryngeal cavity, have been rejected; also pus from an abscess developed in the organ, as

in a case published by Dr. Pravaz, of Lille: a tumour, soft and fluctuating, had been previously recognised by the introduction of the finger, and disappeared after the sudden expectoration of a certain quantity of purulent matter, with which two small concretions were also thrown up. The same author relates, in his inaugural thesis, a case in which two hydatids were found in the ventricles of the larynx; but we have never ourselves observed any instance of the kind.

Acute bronchitis is not, in its first period, attended with expectoration; but as the disease progresses, the cough becomes looser, and a colourless, transparent mucus, more or less viscid in its nature, is rejected, occasionally streaked with blood, if the cough be violent. This matter gradually becomes less transparent, and acquires a puriform appearance, decreasing at the same time in abundance, in proportion as the case progresses towards a favourable termination. In some patients the expectoration is puriform from the first; in others it never assumes that character. Occasionally, even the cough is dry from the beginning to the end of the disease. In chronic bronchitis the expectoration usually consists of a slimy fluid, more or less puriform in appearance. When dyspnoea is present, this matter is very viscid, and generally spumous. It is sometimes constituted by a homogeneous liquid, which bears the greatest resemblance to the expectoration in consumption; from which neither chemistry nor the microscope is able to distinguish it. The abundance of the rejected fluids may be very considerable, particularly in the aged, the general condition of the system suffering at the same time much less than it would, *a priori*, seem rational to suppose. The odour of the matter is not characteristic, and may accidentally acquire great fetidity. In some cases of chronic inflammation of the bronchi, no expectoration is observed; in others a peculiar granular mucus is thrown up, which has a remarkable tendency to solidify; and in both these cases pulmonary emphysema often follows bronchitis.

During the first two days of pneumonia, characteristic expectoration is seldom noticed; but after this period the rejected matter is viscid, transparent, spumous, and rusty in colour. As the disease advances, this fluid becomes darker and less frothy, and gradually resumes its natural hue, if the malady terminates favourably; if, on the contrary, it becomes darker and more viscid, or brown and more fluid, the prognosis acquires greater gravity. It has been often said that where the colour of the expectoration resembled that of the juice of stewed prunes, the circumstance indicated diffused suppuration of the lung; we believe that it points more to increased severity of the case than to that particular fact. In the aged, the expectoration is often of a reddish gray, and may completely be suspended some time before a fatal issue, either from a real cessation of the morbid secretion, or more frequently from loss of power to reject it. In the pneumonia of children no expectoration takes place; and when this disease is a complication of other ailments, consumption, for instance, the rejected matter is often deprived of its characteristic appearances. M. Remack, of Berlin, states (Archives, January, 1846*) that in the expectoration of pneumonia, small concretions are rejected, constituted by fibrine, and incarcerating purulent corpuscles in their network; the shape of these concretions is the same as that of the bronchi. We have several times assured ourselves of the accuracy of this observation, which may assist considerably the diagnosis of doubtful cases. Chronic pneumonia presents no special expectoration.

Edema pulmonis and emphysema are not attended with any characteristic appearances in this respect. At the beginning of attacks of asthma the expectoration is usually suppressed, and returns at the close of the paroxysm. Pulmonary apoplexy usually causes hemorrhage and the rejection of a small quantity of blood, but not constantly. In gangrene of the lung, the sputa are thin, dark, and extremely fetid.

Pulmonary consumption, at its various periods, occasions an expectoration, the characters of which it is important to be well acquainted with. Mucus, pus, blood, concretions, &c., may be rejected, and their relative signification should be clearly understood. During the first period of phthisis the cough is frequently dry, or followed merely by the expulsion of pure mucus; blood is often rejected

* See "Abstract," Vol. III. p. 180.

at this period, with the characters which we have elsewhere described. Calculi, also, may be expectorated, formed of crude tubercular matter. When softening occurs, the appearances are usually those observed in bronchitis, the sputa being sometimes streaked with a substance of a yellowish, dead-white colour, supposed to consist of detached tubercular secretion; also, occasionally, granular agglomerations of tubercle are found floating in the mucus; hæmoptysis may occur at this stage; but when cavities have formed in the lung, the appearances are more characteristic. A large tubercular mass may be expelled suddenly, but in general its elimination is gradual. The discharge is thus formed of three parts, viz., bronchial mucus, tubercular matter, and a purulent fluid secreted by the walls of the accidental cavity. According to the relative proportions of these three elements, the expectoration varies in its characters. In most subjects it separates into two layers—a semi-transparent, gummy fluid, and a more opaque, solid matter. The latter may be suspended in flakes, or flat on the surface of the fluid in small round patches (nummular expectoration). At a still later period of the disease, the semi-transparent matter is no more to be found, and the matter consists merely of a thick, purulent fluid. At this stage of phthisis, hæmoptysis is more rare than in the first periods. The odour or taste of the expectoration is not characteristic, in spite of the Hippocratic aphorism, that in consumption it is at first salt and afterwards sweetish. The quantity rejected varies greatly, not only in several, but even in the same individual. Shortly before a fatal termination, the expectoration may be suppressed, or become looser, from the enlargement of the caverns. Microscopic examination shows in the sputa of consumption the presence of pus, and blood-corpuscles, of epithelium, of false membranes, and of pulmonary tissue. When a piece of tubercular lung is examined with the microscope, numerous corpuscles can be seen, with the particular form described in the first series of these lectures. But it is very uncommon to meet with these special granulations in the sputa, being, as it would seem, dissociated before they are expelled from the chest by the efforts of cough. It has been said, and it is quite true, that tubercular sputa sink in water, and burn with a flame when desiccated: but these characters cannot distinguish them from the sputa of bronchitis, because they result from the presence of pus, which may exist in one disease as well as in the other.

When hydatids form in the pulmonary organs, they may be expelled by expectoration. The sputa of cancer of the lung are said to resemble gooseberry jam in colour and consistency, but this fact requires further confirmation.

In diseases of the pleura the expectoration is usually absent, or resembles that of bronchitis; but pleuritic effusions may suddenly be discharged by the bronchi, after ulceration of the surface of the lung. True pus is thus rejected, and penetration of air into the pleuritic cavity soon communicates to its contents a fetid alliaceous odour. The consecutive discharge may continue for a considerable time, and may be recalled after temporary cessation by change of position of the subject, by which a change is also effected in the relative situations of the pleuritic effusion and of the pulmonary fistula. Even after long duration these cases are susceptible of recovery.

In diseases of the pulmonary organs the *sensibility* of the patient may be modified, and furnish signs to the diagnosis.

Many acute or chronic diseases of the larynx may exist without pain, and present a striking contrast between the great change of the voice and the total absence of suffering. When pain accompanies ulcers of the larynx, it is more marked when the sore occupies the vocal chords, or is situated above them, than when it is placed below the ventricles. Affections of the trachea are seldom painful. Acute bronchitis is usually attended with a distressing sense of heat within the chest, which increases with the cough, or with the inspiration of cold air. This pain may occupy the sternal region, or be complained of between the shoulders. Pneumonia, like other inflammations of parenchymatous organs, is seldom of itself a painful disease. "Pulmonum inflammatio," says Boerhaave, "*plus affert periculi quam doloris*;" a perfectly accurate remark, the stitch in the side, which so usually accompanies pneumonia, being in most cases due to pleuritic complication. Many consumptive patients suffer very little; others, on the contrary, are frequently troubled with pain, due to the participation of the pleura in the disorder

—a fact demonstrated by the adhesions found within the thorax of these subjects on post-mortem examination. Some patients feel a sort of tightness round the chest, and are fully aware, from the nature of the sensation, that their respiration is not complete; in others, a sense of uneasiness is complained of in the superior part of the chest; and in these cases, on dissection, caverns are often found in these regions, separated from the pleura by very thin walls. Occasionally, percussion of the chest, and even auscultation with the stethoscope, cause pain in phthisis. Pain between the shoulders is very generally looked upon as a sign of consumption; we believe that the importance of this symptom has been much overrated; it seems to us to be merely a muscular pain, due to debility, and observable in most cases of chronic disease; it is, for instance, almost constant in chlorosis. Hydatids and cancer of the respiratory organs are productive of suffering only when the pleura is affected. Acute pleuritis seldom exists without pain; its intensity is variable from a trifling to a most intense stitch in the side. It is usually seated below the breast on the affected side, and increased by motion, pressure, cough, or inspiration. It may extend to the whole thoracic wall, or be limited to the cartilaginous edges of the ribs; in diaphragmatic pleurisy, it spreads to the epigastrium, and even to the abdominal parietes. An ingenious explanation of this pain has been offered by Dr. Beau (see "Abstract," vol. vi, art. 15), and seems confirmed by anatomical investigation. That gentleman attributes it to inflammation of the intercostal nerves, which, in the posterior third of their course, lie in close apposition with the pleura. Irritation of a nerve, causing pain to be felt in the region of its terminal distribution; excitement of the posterior part of these nerves in pleurisy naturally occasions a suffering which is referred to the anterior region of the thorax, immediately below the breast.

ART. 18.—*The Alphabet of Auscultation.*

[Mr. Corfe gives the following succinct epitome of the principal stethoscopic indications in pulmonary disease. These are:]

Two dry sounds.—Rhonchus; sibilus.

Two moist sounds.—Small crepitation; large ditto.

Three vocal sounds.—Bronchophony; ægophony; pectoriloquy. Thus:

1. *Two dry sounds.*—*Rhonchus*, or snoring, heard in the larger bronchi, is produced by an intumescence or œdema of the mucous membrane of the bronchi, on which phlegm impinges. This sound occurs especially at the bifurcation of the bronchi, where the membrane is bevelled off, and is called by the French physiologists the "eperons," or spurs of the bronchi. When the fingers are spread out, the reflected skin from the base of one finger to that of the other, represents a magnified form of this reflection of the bronchial mucous membrane. The sound denotes the existence of bronchitis. The pathological change above described, is well exhibited, in other respects, in conjunctivitis, when effusion exists beneath this membrane.

Sibilus, wheezing, whistling, or cooing. Produced by the same cause as above described, with the exception that it originates in the smaller bronchi, so that the grave sounds of a bassoon, and the shrill sounds of a piccolo, or the air drawn through the semi-closed lips well moistened with saliva, and through the larynx as in snoring, afford a tolerably accurate representation of these two bronchial sounds.

2. *Two moist sounds.*—*Small crepitation* is the invariable symptom of the first stage of pneumonia, and is produced by the inspired columns of air passing through a series of inflamed pulmonary cells, which are partially clogged with sero-sanguinolent secretion. The act of rubbing the hair between the fingers gives some notion of this important diagnostic symptom. I need scarcely say that emphysema from fractured ribs and wounded lung will cause this sound also; but, as I do not wish to confuse the student by describing those morbid changes produced by traumatic causes, I shall omit any further notice of them now.

Large crepitation is similar to the breaking of large soap-bubbles, and is heard over the lower lobes behind, in cases of advanced or chronic bronchitis, the third stage of pneumonia, and in emphysema with œdema pulmonum.

3. *Three vocal sounds.*—*Bronchophony*, or increased resonance of the voice, is

produced by a solid portion of lung acting as a better conductor of sounds than a vesicular or healthy portion; so that the voice of the patient rings under the ear of the auscultator. This solidification is either the result of pneumonia, or of a mass of aggregated tubercles in the upper lobes. In the latter case, it is heard under the clavicles; in the former, it is usually detected over the lower lobes behind.

Egophony, or bleating of the goat. A sound peculiar only to the presence of a small portion of effused lymph between the surfaces of the costal and pulmonary pleura, the result of pleuritis. It is not heard when the effusion is copious, but it is again heard when the effusion is in the course of absorption. Hence it is an unfavourable auscultatory sign in the early, and a good one in the latter, stages of pleuritis. This sound should be listened for over the lower lobes behind; the ordinary seat of the early occurrence of pleuritis.

Pectoriloquy is the effect of the intonation of the voice passing up the stethoscope, as though it came from within the chest rather than from the mouth of the patient. Its production is the unequivocal evidence of a cavity in the substance of the lung, which cavity is usually in the upper lobes, and therefore this vocal sound is to be sought for under the clavicles. If you place the stethoscope over the wings of the thyroid cartilage, and make the person talk, you have a fair specimen of this vocal sound in the above diseased change.

Medical Times, Feb. 1848.

ART. 19.—*On Spasm of the Glottis in the Adult.* By Dr. WARDELL.

(*Prov. Med. and Surg. Journal*, Oct. 6, 1847.)

[Dr. Wardell narrates two cases, as illustrative of spasm of the glottis in the adult. The first is that of a plethoric girl, æt. 18, with disturbed uterine functions, who was suddenly seized, April 8th, with dyspnœa and croupy respiration. Pulse 76, countenance anxious; stridulous respiration, audible on auscultation; no abnormal pulmonic sounds; she was bled to deliquium with improvement, and next day, at 9 A. M., was free from dyspnœa, though the croupy sound was still audible. At 11 in the morning the dyspnœa suddenly returned, and suffocation appeared imminent. P. 90, the finger introduced into the fauces, caused an effort to vomit, after which a deep inspiration was taken, producing immediate relief; she was ordered ether and ammonia, and mustard cataplasms. At 3 P. M., another paroxysm came on abruptly, as before, accompanied by more defined hysterical symptoms. P. 94. Antispasmodics and sedatives were persisted in, and the patient eventually recovered.

The second case, in some respects similar, was that of a lad, æt. 16, who, after exposure to damp, was seized with hoarseness and vomiting, with aphonia, to which, in a day or two, was added a severe paroxysm of stridulous breathing. This was relieved by bleeding, leeches to the throat, ether, and opium.

After noticing the analogy of these cases to infantile laryngismus, and the greater frequency of its occurrence in young subjects, the author proceeds as follows:]

On a perusal of the first of these cases, it is seen that the patient was a young and somewhat chlorotic-looking girl. The affection, as in children, came on with great suddenness. There was a degree of attendant spasm in the muscles proper to the chest, as evinced by the sensation of constriction experienced when full inspiration was attempted. The stethoscope at once proved that the disease was not in the chest, but in the larynx, notwithstanding the sense of pain in the chest, and this was the partial closure of the glottideal chink. The bleeding produced relief by its induction of general relaxation. On the night of the 8th inst., she had no return, nor, on the morning of the 9th, were there any pyrexial symptoms indicative of the existence of inflammatory action. The paroxysms which subsequently came on during that day, arose in a moment, and during their continuance, as seen from the reports, there were hysterio-epileptical symptoms, in addition to those immediately produced by the asphyxial condition under which she laboured. It has been said that damp and cold have nothing to do with the production of laryngismus stridulus, and that croup, on the contrary, is mainly brought on by these conditions. It is quite clear, from the above cases, that the

first of these statements is incorrect, as in both instances wet and cold were the exciting causes. The girl, Cooper, had been employed most of the day on which her illness commenced, in pumping and carrying water out of the house, which had come in during a great flood of an adjacent stream, and her feet had been wet for some hours. The boy stated, that the day before his attack, he was thoroughly wet, and on the following morning, he had, in a great measure, lost his voice.

The instance of John P. supplies a good example of one of those cases but rarely observed, of distinct hysterical symptoms in the male. When such become manifest in this sex (the male), it is about puberty, when the generative organs, and the body generally, undergo a great change, or in the persons of nervous and excitable young men, though cases have been recorded of distinct hysteria occurring in a stout plethoric man. Sydenham, Hoffman, Whytt, Ferriar, Villermay, Georget, Conolly, &c., favour the opinion that undisputed hysteria may occur in the male; when in this sex it is never, however, so unequivocally developed as in females, perhaps owing to the greater mobility which there is in the latter than the former. The present writer knows a married gentleman, of two or three and thirty years of age, who at times is decidedly hysterical, being often somewhat melancholic, highly irritable, has the globus hystericus, &c., rendering no doubt whatever as to the nature of the affection. During the paroxysms, John P. presented much the same kind of symptoms as the girl Cooper. There was slight lachrymation, a sensation of choking, a wild, incoherent-like tossing, with great difficulty of breathing, and a congested state of the countenance, which demonstrated asphyxial symptoms. The hands were suddenly clenched, and the inferior extremities involuntarily moved in convulsive twitches, and he intimated that he felt a painful tightness at the chest and throat. From these facts, then, it would be difficult to dispel the opinion of there being evidence of true hysteria present, with whatever other conditions associated.

Respecting the treatment of the two cases, it is quite undeniable that medicines which produce a ready sedative and antispasmodic effect upon the nervous system constitute the class of remedies most correctly indicated. Our object is to overcome the morbid irritability which there is in the nervous centres, and, when the paroxysmal attacks have subsided, to strengthen the system by means of tonics, of which the mineral kind are the best, especially the preparations of iron. Both, it is observed, were bled. Blood-letting was had recourse to, on two accounts,—first, to relieve the congested state of the vital organs, especially the lungs, which had been induced by the imperfect aeration of the blood, as evinced by congestion of the features, sense of suffocation, incoherence, &c.; secondly, to promote general muscular relaxation, thus overcoming the spasmodic rigidity in the muscles proper to the larynx, and therefore averting the dangers of immediate suffocation. Unless absolutely indicated by the immediate peril of the patient, there can be no doubt whatever that the abstraction of blood in chlorotic women is not good practice, and indeed we should then always avoid having recourse to the lancet, when other remedies can be safely substituted, for the more we bleed, the greater will become that mobility of the nervous system which is the prelude to, or perhaps the main cause of, these conditions. It is true, however, as all men of experience must acknowledge, that under these kind of affections delicate young women will occasionally endure, not only with impunity, but be benefited by the loss of large quantities of blood.

[In conclusion, the author propounds the following deductions regarding the affection in question:]

1st. In the young, it may be detected from croup by the suddenness of its super-vention, occurring in a dry and warm atmosphere, where, perhaps, no cases of croup are to be observed; by the intermissions of natural breathing; by its taking place at the time of teething, or where there is some obvious source of nervous irritation; by the entire absence of pyrexia, and by the non-existence of the traces of inflammatory action after death.

2dly. In adults, it comes on as quickly as in children; occurs generally in the persons of hysteric females; is diagnosed from laryngitis by the absence of fever during life, and of lymph on the parts after death, and by its sudden mode of

accession, by the great utility of an antispasmodic and the inoperative effects of an antiphlogistic mode of treatment.

3dly. In the paroxysms it can be distinguished from epilepsy, by the absence of foaming at the mouth, and biting the tongue, and by the intellectual faculties remaining entire, together with the positive symptoms before described.

Lastly. On application of the stethoscope to the lateral aspects of the larynx, a loud whistling noise is heard, as if produced by blowing through a small pipe, or when a stream of air forcibly passes through a narrow aperture; hence by these positive signs, and negatively by the absence of bronchial murmur in the thorax, it is broadly distinguished from bronchitis, the only other affection with which it might be confounded.

[In a subsequent number of the same journal, Dr. Ogier Ward takes objection to the spasmodic nature of the above cases, contending that they were instances of inflammatory oedema of the glottis. His words are:]

The disease in Dr. Wardell's first case occurred in a girl, æt. 18, who had taken cold, and began suddenly with dyspnœa, and loud croupy respiration, lasting seventeen hours without intermission, but with short remissions, recurring again four hours afterwards, continuing some time, and being attended with symptoms of a spasmodic character. The attacks ceased on the third day, having been combated by bleeding to fainting at first, followed by hot drinks, and a full dose of morphine at bed-time. The treatment on the following days was a combination of opiates and antispasmodics, with counter-irritation.

The next patient, a boy, æt. 16, had also got wet; his complaint began the next day with hoarseness, which was relieved by linimentum ammoniac, and the ordinary treatment for a cold. Eleven days afterwards he had an attack of dyspnœa, with crowing inspiration, which lasted two hours, and was relieved by bleeding and opiates. It afterwards returned with violence, and was attended with convulsive movements of the limbs, and hard, accelerated pulse, the patient being an epileptic subject. The treatment was similar to that of the former case, and proved successful the second day.

Now in regard to these cases, both of which were attended with febrile symptoms at the outset, I would ask what evidence have we of spasm of the glottis, that may not as readily be adduced in proof of the inflammatory nature of the attack? Indeed, in a third case, Dr. Wardell admits the existence of inflammation in the larynx, and argues, justly, that the irritation had produced a spasmodic closure of the glottis. That there was a constriction of the glottis in these cases can hardly be doubted; but, as Dr. Wardell must be aware that true spasm, or closure of the glottis, from whatever cause, cannot continue for more than a few seconds without being followed by death, it is to be regretted that he should have given us these interesting cases under the title of spasm of the glottis, and that in his observations upon them he should have endeavoured to identify them with the infantile complaint. It would have been better had he imitated the reserve of that excellent pathologist, Dr. Copland, who does not admit any disease under that name into his Dictionary of Medicine.

[We agree with Dr. Wardell, that his cases were instances of spasm of the glottis in the adult, which are far from being as uncommon as represented. We have seen three or four instances, at least, of this affection, as a symptom of reflected uterine irritation. We have treated the paroxysm in the adult as in the child, by dashing cold water on the face, emetics, &c. Had they been cases of acute laryngitis, as supposed by Dr. Ogier Ward, the pulse would not have remained under 100, nor would the remissions have been so distinct.]

Prov. Med. and Surg. Journal, March 25, 1848.

ART. 20.—*Aphonia curable by Inhalation of the Fumes of Benzoin*.—An anonymous writer in the "Provincial Medical and Surgical Journal" states that:

A middle-aged unmarried lady consulted him about her voice, which she had lost for twelve years, never from that period having been able to speak above a whisper. There was no cough and no evidence of inflammatory or organic change about the larynx. She was a nervous person, and he therefore considered the aphonia to arise from hysterical disinclination to use the muscles of the larynx. Not knowing what treatment to advise, he recommended that she should burn

common fumigating paper, which is made by impregnating blotting paper in the nitre of benzoïn, and inhale the fumes once in the day. A perseverance in this plan for four months was followed by restoration of the voice. The improvement was gradual.

The fumigating cards are made in this manner: a sheet of thick white blotting paper is brushed over with a saturated solution of nitre till it is thoroughly wet, and when dry the compound tincture of benzoïn is applied in the same manner. The paper is cut into slips three inches long by one and a quarter broad. When burning, they emit a dense white smoke, which is to be inhaled.

[A second case equally successful is related.]

Prov. Med. and Surg. Journal, March 22, 1848.

ART. 21.—On the Employment of large Doses of Tartar Emetic in the Treatment of Pneumonia, especially in Children. By M. HERARD.

(*Union Médicale*, No. 127.)

Dr. Herard observes, that although it is now universally allowed, that doses of tartar emetic, which toxicologists heretofore pronounced poisonous, may be administered with safety, yet the greatest discrepancy of opinion prevails as to the amount of benefit derivable from these, notwithstanding the question has received so much illustration from very able writers. Having had the opportunity of witnessing the treatment of pneumonia by tartar emetic at the Hôtel Dieu, by M. Sandras, and at the Hôpital des Enfants, by MM. Baudeloque and Blache, and this in a great number of cases, he believes that the results may be advantageously published, especially as the antimony was the only remedy employed. He does not agree with those who consider that because we have so powerful a therapeutical agent as bleeding, inquiries like these are superfluous; for not only is it desirable to possess more than one efficacious means, especially if their conjoined use is found to diminish the chance of death, and hasten convalescence, but there are cases in which bleeding cannot be performed without danger, as in ataxic pneumonia, particularly that of drunkards, and in pneumonia which manifests itself in persons already exhausted by prior diseases, or by being surrounded with anti-hygienic circumstances. Children too, at least those who are found in hospitals, ill bear blood-letting, even in its mildest form.

Dose, and mode of administration.—In the adult, the dose has been rapidly raised from five or six to ten grains, but never carried beyond this; while in children, commencing with one grain and a half or two grains, it has rarely reached five grains. It has always been administered in a julep, giving a spoonful or two every hour or every second hour, suspending it for two or three hours after meals, and preventing the patient drinking too much of ptisans while taking it. With such precautions, the medicine becomes easily tolerated, the great error of practitioners being the administering it in too large a quantity of fluid. Moreover, a small proportion of syrup of poppies or gummy extract of opium is always added to the julep.

Action on the Economy. 1. On the alimentary canal.—The author's investigations in nowise confirm the assertions of those who state that inflammation of the bucco-pharyngeal mucous membrane is a common result of the employment of large doses of antimony. In four or five cases only out of sixty in which these were given, did he meet with a slight aphthous ulceration, apparently resulting from the child's retaining the julep in the mouth before swallowing it. In seven only of thirty-one infants did the tartar emetic produce repeated vomiting and purging; in twelve the tolerance became established by the second day; while in the rest the symptoms were absent from the beginning. As a general rule, tolerance is more rapidly and durably established as regards the stomach than the intestines. Diarrhœa is, however, seldom increased by the antimony, and in some cases obstinate constipation follows its use. When tolerance is of somewhat difficult establishment, it seems to be more readily brought about by increasing the dose, and the frequency of administration, than by a contrary proceeding. After the fever has subsided, and the medicine is only continued because of the persistence of some local symptom, tolerance is still maintained. Some patients even take it at their meals, and in others it seems to excite the appetite.

2. *Circulation*.—All observers agree that antimony exerts a marked effect in diminishing the number of the pulse. This, in the adult, rapidly falls from 105 to 80, 70, 60, or even 45. In the child the diminution is less marked and less permanent, the pulse still retaining somewhat of the oscillatory character proper to the time of life. This effect upon the pulse cannot be said to result simply from the ameliorated state of the patient, since it is observed the very next day after giving the antimony, and during the existence of very grave pulmonic lesions, ascertainable by the stethoscope. More than once a pulse, which had descended to 50, has risen to 70, on discontinuing the antimony, again to fall on its resumption. This effect upon the pulse is usually more marked in proportion to the ease with which tolerance is established. Simultaneously with the diminution of the number of the pulse, there is sometimes, but not always, an enfeeblement of the arterial and cardiac pulsations; but the intermissions and irregularities mentioned by Trousseau have not been observed by the author. The effect upon the pulse is sometimes long in disappearing, this continuing slow for several days after the suspension of the medicine.

3. *Respiration*.—This, as well as the pulse, has almost always been found slower than natural, but its condition is much more difficult of exact appreciation, especially in the child. It is best examined during sleep, and then is found sometimes to have become affected even by the second dose.

4. *Secretions*.—Transpiration has not seemed either in the adult or child to be increased by large doses of antimony; nor has the increased secretion of the urine, noted by some authors, been observed.

Modes of action.—Many excellent observers explain the curative agency of antimony in pneumonia by the powerful sensation it produces upon the alimentary canal; and M. Chomel attributes some of the advantage to the mechanical effect which the repeated vomitings exert in disgorging the lungs. But if these explanations are correct, the medicine should be given in smaller doses, for these exert a far more powerful effect upon the alimentary canal than the larger ones; and every emetico-cathartic medicine might be expected to operate beneficially. In fact, the most marked benefit is derived from the use of antimony, just in those cases in which its complete toleration prevents any effect being produced upon the stomach or intestines. According to others, it determines towards the skin the morbid material which had become concentrated upon the internal organs; but the slight amount of increased transpiration ill accords with this explanation.

The rapid and marked depression of the circulation and respiration has been differently explained. Some, as Mialhe, have seen in it a chemical action, by which the oxidizing power of the lungs upon the blood becomes diminished; while others, as Trousseau, believe that the antimony admitted into the circulation acts directly through the nervous system upon the heart and inspiratory muscles. The lung consequently receives in a given time, a less quantity of blood, and has, as an instrument of hæmatosis, less blood to elaborate; and it is to this repose of the diseased organ that we may refer the resolution of the disease. To this it may be objected, that antimony is as efficacious in some other inflammations, as rheumatism. The author of the present paper is not disposed to add to these hypotheses, but observes that, however explained, the diminution of the number of the pulse is, in some measure, the index of the beneficial effect of the remedy. When this is marked and rapid, a cure is almost certain.

Therapeutical Effects.—The antimony, in the present series of observations, was administered to nine adults and thirty-one children. Of the former, one patient, admitted in an advanced stage of the disease, died; and the rest were completely cured. Of the children, seven died; two falling victims to tubercular pneumonia. In the other five, lobular pneumonia was very extensive; and five in thirty-one is a very favourable proportion in a disease so fatal as is the pneumonia of young children in an hospital. Lobular pneumonia is far less amenable to tartar emetic than the lobar; and those cases of broncho-pneumonia, as M. Guersent terms them, occurring in children under two years of age, are generally far more efficaciously treated by emetics than by antimony given in contra-stimulant doses. For the same reason, probably, the Rasorian method is less successful in aged persons than in the adult; for it is well known that at this period of life, pneu-

monia is complicated with bronchitis, and the characteristic tubular *souffle* is often absent.

So, also, in pneumonia succeeding to bronchitis, M. Sandras has found antimony far less efficacious than in cases of pure pneumonia. The most remarkable fact among the present cases was the rapid disappearance of the bronchial *souffle*, and its replacement by crepitant or sub-crepitant râles. Bleeding itself does not produce so rapid a passage from the second to the first stage of the disease. Frequently on the day of commencing the antimony, bronchial respiration, with bronchophony and resonance of the cough over the half of a lung, were ascertained, and the next day râles, more or less fine, might be heard over this entire space. Had this phenomenon been met with only once or twice, we should have explained it by the undoubted changeableness of the stethoscopic signs in childhood; but the result was obtained in so many children, that it would have been impossible not to refer it to the antimony, if even it had not been equally exhibited in the adult. The crepitant râle, on the other hand, persists with remarkable tenacity, and, becoming assimilated in character to the large, moist, sub-crepitant râles of chronic or subacute bronchitis, may extend far into convalescence, every other sign of returning health being present. The rapidity with which convalescence takes place, is, indeed, one of the most remarkable and advantageous results of the use of antimony. It can hardly be said to exist, so rapidly does health return, giving this method of treatment an infinite advantage over blood-letting in this respect.

Notwithstanding his conviction of its great efficacy, the author would not recommend tartar emetic as an exclusive remedy, believing, as a general rule, that the disease in adults is most advantageously treated by combining the antimony with venesection. It enables us to do with fewer blood-lettings, while these favour its absorption. But, to render it of service, practitioners must be convinced of its therapeutical importance, and prescribe it from the commencement, not as a mere accessory, but as an heroic remedy. In children above two years of age, it should be regarded almost as an exclusive medication, although in exceptional cases one or two emissions of blood or a blister may be required; this last, however, often proves a dangerous remedy in hospitals.

ART. 22.—*Delirium in Pneumonia. Clinical Lecture by M. GRISOLLE.*—Delirium is one of the most frequent and most severe cerebral accidents by which pneumonia can be complicated. One-third of the cases in which this complication is observed, refer to habitual drunkards; the seat of inflammation in the summit of the lung has also been considered as having considerable influence upon the production of delirium; but recent observation has not fully confirmed this very generally adopted opinion. Out of twenty-seven delirious cases of pneumonia, observed by Dr. Grisolle, in nine only was the summit affected; the basis was inflamed fourteen times, and the middle lobe only in four patients. Professor Andral and M. Briquet had come to the same conclusion. It is, however, quite correct to say that, when both lungs are affected, delirium is more frequent. It is more common in men than in women in the proportion of twenty-one to six; and it is more usual between fifty and sixty years of age than at any other period of life. Drs. Hourman and Dechambre state that delirium usually accompanies pneumonia in the aged pensioners of La Salpêtrière. The delirium makes its appearance at the end of the first week, or the beginning of the second, after the outset of the disease, and varies in its intensity from quiet divagations to the most violent sort of furious raving. The appearance of delirium during the progress of pneumonia increases the severity of the prognosis; when the delirium is a predominant symptom, particularly if the pulse be quick and small, or slow and soft—in a word, if absence of harmony is observed between the extent of the local damage going on within the chest, and the amount of vascular reaction—musk, recommended by Dr. Récamier, should be employed in doses of 10 to 15 grains daily, in pills. When the patient is a person addicted to fermented liquors, art possesses a greater number of resources; opium should be first employed, and is generally successful; it should be exhibited until sleep has been procured; when the patient wakes, the delirium has usually departed. A little wine, particularly at the beginning of the delirium, will sometimes suddenly arrest its progress.

[Delirium is a more common accompaniment of pneumonia than is here represented. In children it is frequently one of the first symptoms; we have seen it before crepitation was fairly established. We believe in the adult it is an indication of extent rather than localization of the inflammation, and for this reason it is that it must be considered as an unfavorable sign. In interperate persons its prognostic value, as regards the state of lungs, is less, as in such habits delirium accompanies any attack which lowers the vital powers. Ed. H. Y. A.]

Medical Times, Jan. 29, 1848.

ART. 23.—Differential Diagnosis of Pneumonia and Pleuritis.—The following points chiefly deserve attention: 1st. the resonance of the voice is clearly perceived in pneumonic, but never in pleuritic exudations; chiefly in the former when the voice is neither high nor feeble; 2d, in pleuritic exudations, percussion can distinctly limit the healthy and diseased regions, whereas, in pneumonic, the dullness on percussion vanishes only by degrees; 3d, on account of some cells still retaining air, even amidst the infiltrated lung, the tone of percussion is not so perfectly dull in pneumonic exudations as in pleuritic—for the same reason, the resistance of the chest is less in the former; 4th, whenever the dull tone is perceived only at the angle of the scapula, and not likewise on the anterior surface of the chest, the exudation is necessarily of pneumonic origin; 5th, enlargement of the thoracic walls never occurs, as a consequence of pneumonic exudation; on the contrary, as a consequence of pleuritic exudation, it constantly occurs in children, and very frequently in adults. Pleuritic exudation, when on the left side, may be easily mistaken for an enlarged spleen; but in such cases, it should be borne in mind that the surface of the pleuritic exudation has a tendency to cross the ribs, whereas the tumour of the spleen invariably extends in the direction of the ribs.

Clinical Notes taken in the Hospital of Prague. Hannoverische Annalen, 1847; and *Monthly Journal*, 1848.

ART. 24.—Chloroform in Asthma.—Mr. Chandler reports the following instance of the successful application of chloroform in asthma:—

The patient, a lady æt. 56. had a severe attack of asthmatic breathing, so that from nine in the morning till twelve the next day she sat erect in bed gasping for breath. Having bled her previously, Mr. Chandler was reluctant to repeat the operation, and resolved to try chloroform. Half a drachm was accordingly poured into a sponge. In less than a minute she became excited and hysterical, but soon she sank on the pillow, drawing deep, prolonged inspirations, between each of which, perhaps, eight could be counted. I now withdrew the sponge, opening the curtains to admit air. Respiration gradually became more regular, and she lay without motion, the body well thrown back on the bed, not the slightest vestige of spasm remaining. This state continued until four o'clock, the patient apparently half sleeping, conscious of what was passing in the room, when she sat up and took some food, describing her sensation as having been exceedingly pleasurable. Shortly afterwards she enjoyed a quiet sleep for some hours' duration, and the following morning she was quite quiet, no return of spasm, and no ill effect from inhalation; she is now comparatively well. I tried the vapour of sulphuric ether in this case, some time ago, not only without success, but with much increase of the sufferings of the patient.

Medical Gazette, and *Prov. Journal*, Jan. 29, 1848.

ART. 25.—New Diagnostic Sign in Emphysema of the Lungs.—Mr. Corfe has the following remarks as part of his papers on semeiotics:—

But an observation ought here to be made of a fact which will help to a decision on the nature of the disease before the ear is placed on the chest of such a patient. It is this: that if there is emphysema to any extent, and it has reached the upper lobes—for emphysema usually begins in the lower lobes, and spreads upwards—each act of coughing produces "hernia of the lung," so to speak, in that triangular space which is formed by the clavicles, sterno-cleido, and omohyoidei muscles. At this point, and at this point only of the thorax, we know that the pleura is wholly unprotected by muscle; and, as the lungs are jerked up by each distress-

ing effort of hard coughing, the emphysematous lung and pleura are forced up into this triangular space, and may be seen as one distinct tumour.

This appearance alone has often enabled me to form my diagnosis of a pair of emphysematous lungs before I had even applied my ear to the chest.

Medical Times, March 18, 1848.

SECT. IV.—DISEASES OF THE CIRCULATORY SYSTEM.

ART. 26.—*Extract from Professor Andral's Lectures on General Pathology.—Semeiotics of the Circulating System.*

(*Medical Times*, Jan. 1, 1848.)

1. *Signs furnished by the state of the Heart.*—All the signs furnished by examination of the heart are not obtained by physical means. The latter are, no doubt, the most important; but we must also study those which are purely functional. Thus *palpitations*, or increased violence of the pulsations of the heart, may accompany every morbid change of that viscus, without pointing to any one in particular. This symptom is sometimes more marked in incipient disease than in the more advanced stages of valvular alteration. Palpitations may also be merely a dynamic disturbance not connected with any anatomical alterations of the organ. Their cause, in such cases, may reside in a primary alteration of the nervous system, and be accompanied with oppression and vertigo, simulating disease of the heart; but in these instances the increased action is variable in its intensity and in its causes. Alterations of the blood, plethora, and anemia, e. g., occasion, secondarily, disturbance of the nervous system, and also produce palpitations, sometimes of a violent nature. Palpitations are, therefore, a common symptom of both organic and dynamic affections of the heart; and, in order to recognize the real nature of the latter, it is indispensable to have recourse to other sources of diagnosis.

Pain in the precordial region is usually attributed by patients to a morbid condition of the heart; but the pathologist should recollect that it may be merely neuralgia of some intercostal nerve, and also, on the other hand, that true acute pericarditis may be totally unattended with any pain. Endocarditis is still more frequently unaccompanied by suffering, nor is any usually observed in the various alterations of nutrition of the heart. Neuralgia of that organ is a disease the existence of which cannot be denied. As a sign of organic lesion, we consider palpitations as more important to the diagnosis than pain. We may also add, that we are not satisfied that the white patches of the pericardium, or the partial adhesions so commonly observed within that cavity, have not something to do with the presence of more or less tenacious pain in the præcordia.

The principal phenomenon in *syncope* is the arrest of the action of the heart. This we observe in the first place when that organ is primarily affected, as in pericarditis, or when air has been introduced, accidentally, into the veins; it is not so well demonstrated that polypous concretions within the heart can occasion this symptom. Secondly, we again notice syncope when, the heart not being primarily affected, a large quantity of blood is suddenly abstracted, or even fixed for a time in any distant part of the body, as it is during the application of the immense "cupping-boots," if we may use the term introduced into practice by Dr. Junod. Again, after too rapid delivery, after paracentesis abdominis, internal hemorrhage, or sudden emotion, producing great nervous disturbance or intense pain, and in hysteria, syncope is frequently met with. One variety of pernicious fever is characterized by the presence of this accident; and sometimes sudden syncope, which may terminate fatally, occurs as a unique and primary symptom.

We now turn to the history of the physical signs of disease of the heart and its envelopes. These signs are derived from four sources of knowledge, viz., inspection, palpitation, percussion, and auscultation.

Inspection informs us of increase of size of the precordial region; and when the enlargement is considerable, it is always the result of disease. It may also lead us to recognise a greater degree of intensity in the pulsations of the organ, or

even its displacement; thus, the apex naturally beats in the fifth intercostal space, at about two inches from the nipple; but when the left ventricle is hypertrophied, the pulsation is observed to occupy a lower seat. Dr. Saunders considers epigastric retraction after pulsation of the heart as indicative of adhesions between the pericardium and the heart; we do not deny that such may be the case, but we cannot look upon the sign as occurring so constantly as Dr. Saunders is inclined to believe. In pericarditis attended with effusion, the pulsations are said to be perceptible in a higher region than the dullness given by percussion. Ectopia of the heart is also detected by inspection.

Palpation leads us to recognise the intensity of the pulsations; we find them increased in hypertrophy, and diminished in dilatation of the heart. We again find them diminished in syncope, in pericarditis, or when the healthy lung is interposed between the viscus and the thoracic walls. Abundant effusion in the left pleura, or excessive abdominal dropsy, may also occasion displacement of the heart, and cause us not to find its pulsations by palpation. This mode of diagnosis also permits us to ascertain the extent in which the pulsations may be felt, and their frequency, which is always increased in endocarditis, in considerable valvular insufficiency, in nervous disturbances of the heart, in great general debility, and in all cases where the animal heat rises 99° Fahrenheit. Palpation tells us, on the contrary, that the beats are less frequent in some forms of hypertrophy, in cerebral disease, in certain intoxications, (for instance, after the exhibition of digitalis.) This subject we will refer to more at large, when we treat of "the pulse." Changes in the order of succession, of the contradictions of the heart, may also be known by palpation, as well as displacement of the viscous, by hydrothorax, pleurisy, or ascites. One of the signs furnished by palpation of the region of the heart, is of the greatest value in the diagnosis of organic disease; it is that which has received the name of "purring tremor," and which always indicates considerable friction within the heart, and almost invariably denotes valvular disease. Hope, Dr. Stokes, and Professor Bouillaud have also met with purring tremor in pericarditis. We have not had that good fortune. Laennec, who, during the last years of his life, betrayed a singular tendency to doubt the existence of anatomical alterations in conjunction with the physical signs of disease, admitted that purring tremor might be produced by mere nervous disturbance, this opinion, however, we cannot possibly partake of.

Percussion, introduced into science by Auenbrugger and Corvisart, was, it is singular to say, hardly noticed by them as a means of coming to a correct diagnosis in diseases of the heart. It is chiefly to Professor Piorry, that the credit is due of having shown the important results to be obtained from that method in disorders of the central organ of circulation. In the healthy adult, the precordial region is perfectly dull on percussion, in an extent of two square inches; around this dull region, strong percussion yields also a certain loss of resonance in about one inch and a-half in every direction. Near the sternum the dullness is less perfect, and corresponds to the right cavities of the heart; in this region, also, we should add that less resistance is felt by the finger during percussion. The presence of the emphysematous lung between the heart and the thoracic walls diminishes the dullness; but it is increased by effusions in the left pleura, by indurations of the lung, and by tumours of the mediastinum, such as cancer, abscess, or aortic aneurism; disease of the heart itself, or of its envelopes, also has the same result. Effusion in the pericardium causes dullness in a pyramidal region, with its apex at the upper part of the sternum, and its basis below; this dullness may be displaced in changes of position of the patient, when the effusion is not very considerable. Increase of size of the heart, whatever its cause, also produces augmentation of the space in which dullness exists during health; thus, accumulation of blood in the heart, eccentric hypertrophy (dilatation), produce increased dullness. In enlargement of the left cavities, the dullness is chiefly found towards the fifth, sixth, seventh, or eighth ribs; and when the right side of the heart is hypertrophied, it is towards the inferior part of the sternum, that the maximum of dullness is observed. As to the delineation by percussion of the various cavities of the heart, Professor Piorry asserts that it may be obtained by plessimetry; but further researches are necessary in order to satisfy us upon this point.

2. *Signs furnished by auscultation of the heart.*—When the heart of a healthy

subject is auscultated, two sounds are heard, separated by an interval of silence. The first sound is more dull and more prolonged than the second; its greatest intensity is found to correspond to the space between the fourth and the fifth rib, a little to the left of the nipple, and somewhat lower. At the same time, the apex of the heart strikes the thoracic walls, and the arterial pulse takes place. Perfect synchronism between the pulsation of the arteries and the first sound of the heart, exists only in the arteries placed in the immediate vicinity of that viscus. The vessels more distant from the centre of circulation are distended by the blood a little later, but at an appreciable interval. The second sound of the heart, clearer and shorter than the first, is most distinctly heard near the insertion of the third rib to the sternum. The interval which separates the first from the second sound is called the short silence, in opposition with the longer silence, which intervenes between the second sound and the first. The first bruit corresponds with the contraction, the second with the dilatation, of the ventricles. We are aware that Dr. Corrigan and Dr. Beau hold a contrary opinion, but the numerous researches of various experimentalists, and our own observation, induce us to adopt the general belief on this subject.

Various theories have been broached, for the purpose of accounting for the production of these sounds. We are of opinion that the sounds are not due to one cause only, but to the combination of several: thus, it is not only to the impulse of the heart, to muscular contraction, to the play of the valves alone, or to friction of the blood against the visceral walls exclusively that these sounds should be ascribed; but we should consider that all these causes have a share, an unequal one it is true, but still all have a share in their production. Thus we would look upon the tension of the auriculo-ventricular valves as the chief cause of the first sound, assisted secondarily by friction of the blood against the aortic walls, and against the basis of the column of blood forced into the arteries; as still more secondary causes of the first sound, we should also mention the muscular contraction of the ventricles, and the impulse of the apex of the heart against the thoracic parietes. As the principal causes of the second sound, we would name the sudden tension of the arterial valves, and the return of the blood upon their superior surface; as secondary causes of its production, the sudden opening of the auriculo-ventricular valves, and the passage of the blood into the ventricular cavities.

In the history of the auscultation of the sounds of the heart, we have to consider their seat, extent, intensity, tone (*timbre*), and also the substitution of morbid to natural sounds.

With regard to their seat, we may say that the various causes which occasion a displacement of the heart itself, also change the seat of the sounds; tumours will, therefore, frequently have this effect—a fact so simple as to require no further demonstration.

The extent in which the sounds of the heart are heard during health may be increased, as in endocarditis, dilatation of the viscus, fever, emotions, and nervous affections, generally, by which the violence of its contractions is augmented. If the heart is supposed to remain healthy, still the extent in which the sounds are heard may be increased by all the causes of condensation of the lungs, acute and chronic pneumonia, consumption, &c., which render the respiratory organs better conductors of sound. On the contrary, that extent will be diminished by atrophy of the heart, concentric hypertrophy of its walls, pulmonary emphysema, &c.

The intensity of the sounds is augmented in eccentric hypertrophy, in neurosis of the heart, rarely in endocarditis. In feverishness the intensity of the sounds and the impulse are not augmented as much as one would, *a priori*, suppose. The sound of the heart can sometimes be heard without immediate application of the ear to the chest, and at very variable distances, from two or three inches, for instance, to two or three feet, as we have ourselves observed. The sound thus heard coincides with the ventricular systole; and we believe the cause of the phenomenon to reside in a great increase of energy of the impulse of the heart against the thoracic walls. Laennec explained it by the presence of gas in the pericardium—a gratuitous hypothesis which we do not feel disposed to adopt. In general debility, in softening or atrophy of the heart, in syncope, we find a diminution of its pulsations. We may also add, that in pericarditis increased dullness

coincides with diminished intensity of pulsation, when effusion has taken place; whereas both the dullness on percussion and the intensity of pulsation are increased in hypertrophy of the organ.

The rhythm, or regular succession of the sounds of the heart, may be modified by disease. Thus, the sounds may be intermittent, and the return of the irregularity very variable, and depend upon agitation, motion, or even digestion. Before the age of sixty we very seldom meet with those intermittencies in the pulsations of the heart, without some organic disorder of that viscus. We meet them, for instance, in valvular diseases, and particularly in those of the auriculo-ventricular orifices, whether permanent or transitory in their nature. They also exist when fibrinous concretions form within the heart, in functional disturbance, and whenever any tendency to augmentation or diminution of the action of the heart is produced. We shall not, therefore, be surprised to find them before syncope, or after the exhibition of digitalis. Recollect, however, as a general remark, for the accuracy of which we pledge ourselves, that simple nervous affections very seldom cause intermittent pulsations. The duration of the sounds, or of the intervening silences, may be increased or shortened. The prolongation of the first bruit is generally connected with hypertrophy of the ventricular walls, particularly when this alteration coincides with arterial stricture. As to the second bruit, it is more common to find it shortened than lengthened by disease.

The sounds of the heart may be modified in number. Thus, of the two, one only may remain. It is then the first which, being prolonged, covers and absorbs the second, as in concentric ventricular hypertrophy. The second sound may also, but more rarely, be so much weakened as not to be perceptible. Instead of two sounds, three may be heard—one dull, and two clear sounds—resembling those produced by a hammer falling heavily once, and reverberating twice again afterwards (Bouillaud). It is, in such cases, the second sound which is repeated, and it is observed in strictures of the auriculo-ventricular orifices. The passage of the blood into the ventricles being slackened, a delay takes place in the fall of the blood backwards upon the arterial valves, and the treble sound alluded to is produced. The repetition of the first, the dull sound of the heart, is less frequent, but is occasionally met with, and forms what Professor Bouillaud calls "*bruit du rappel*," from its resemblance to the drummer's call to arms. Its organic cause has not hitherto been rigorously accounted for. In one case of considerable auricular hypertrophy, M. Charcolay states that he heard immediately before the first bruit a peculiar sharp sound. Instead of two or three bruits, four may be heard; but post-mortem examination has not yet thrown much light upon the mode of production of this rhythmic modification. Finally, we sometimes find, particularly when patients are first submitted to examination, that the sounds of the heart are so tumultuous and irregular that they cannot possibly be analysed. Repose often dispels this first result of emotion, and permits the physician to form a correct diagnosis in cases which, at first, seemed to defy discrimination.

The tone of the sounds of the heart may also be altered by disease. In general hypertrophy of that organ, both sounds are more dull; in ventricular hypertrophy, the first sound only; in auricular hypertrophy, the second is thus modified. When the sounds, on the contrary, are more clear, it is generally the result of a condition opposite to hypertrophy, viz., dilatation. When the valves, particularly the bicuspid, are thickened and rigid from chronic endocarditis, a hard, dry, sharp sound is heard, which M. Bouillaud calls "*parchment sound*" (*bruit parcheminé*). In acute endocarditis, the valves being rather soft and fungous, than hard and rigid, a softer, muffled sound is produced, which the same pathologist names "*hoarse sound*" (*bruit enroué*). Here we also place the study of the metallic sound of the heart. It can be readily imitated by applying the palm of one hand to the ear, and striking the back of that hand with the extremity of the index of the other. This experiment proves evidently that this sound may be the result of concussion; and it is heard in the heart whenever that organ beats with unusual violence. Fear and mental emotion produce palpitation, and may, therefore, occasion the metallic sound. Also in intense fever, when the subject is vigorous, it may be observed. It may also accidentally accompany organic disease of the heart: Laennec believed it to depend upon the presence of air in the pericardium—a supposition which has never been supported by facts. Dr. Dechambre ob-

served it in one case, in which the stomach was distended by an accumulation of fluids and of gas. We consider this to have been, in M. Dechambre's case, a mere coincidence. That most distinguished observer, Dr. Hope, also noticed it under peculiar circumstances. It seemed, in a case which he met with, to be produced by percussion of the apex of the heart against the margin of a rib which projected internally, and ceased when Dr. Hope, by pressing upon the intercostal space, had re-established a level surface, upon which the heart did not meet with any inequalities. This most interesting phenomenon Dr. Hope established as the basis of a general theory of the metallic sound—a theory which we do not adopt. We believe, certainly, with Dr. Hope, that in the case observed, the cause of the bruit was the catching of the heart against the rib, but cannot admit that it is so in all cases. We believe, with Bouillaud, Barth and Roger, Beau, &c., that the metallic sound is produced by the violence of the percussion of the heart against the thoracic walls.

The morbid sounds heard in the precordial region may be generated inside or outside the heart. Those which are produced within its cavity have received different names, according to their more or less close resemblance to other sounds to which our ear is accustomed; hence the denominations of *bruit de soufflet* or *souffle* (bellows-murmur), cooing, whining, rasping, or sawing sounds. The musical or cooing sounds are more marked in the arteries than in the heart, and we will speak of them on a future occasion. When a morbid sound precedes the first bruit of the heart, it is called *præstolic*; when it coincides with the first bruit, it is a *systolic* sound. If the abnormal sound accompanies the second bruit, it is named *diastolic*. Diastolic bruits are generally soft; those which precede or accompany ventricular systole are much more frequently rough. In the auscultation of these sounds it is necessary to pay great attention to the extent over which they may be heard, and also to the spot at which they present their greatest loudness; the semeiotic signification of a morbid sound varying considerably, according to the seat of its maximum of intensity. The pathological conditions in which these abnormal sounds are produced are extremely various; thus we find them in four distinct circumstances; in the first place, they are met with whenever alterations existing in the heart interfere with the free passage of the blood from the auricles to the ventricles, or from the latter into the arteries; for instance, strictures of the orifices, valvular lesions, polypous deposits, &c. Secondly, we find morbid sounds when such alterations have occurred within the heart as to permit the return of the blood from the arteries into the ventricles, or from the latter into the auricles; this insufficiency may be produced by various valvular alterations, or by simple enlargement of the orifices consequent upon dilatation of the heart. Thirdly, morbid sounds are formed when an accidental communication takes place between the right and left cavities of the heart. Fourthly, when the heart is lacerated without complete rupture of its walls, and infiltration of blood takes place into its substance. It has been said that in simple hypertrophy, morbid sounds may be produced. We believe that in general it is not so; although it is not impossible that by hypertrophy a change may occur in the relative dimensions of the cavities and of the orifices of the heart. Morbid sounds generated within the organ may be produced also by pericarditis, but usually, the abnormal bruits characteristic of this inflammation are formed outside the viscus.

The heart remaining healthy, morbid sounds may also be produced. Thus, when the blood has been impoverished, a *souffle* is heard. When, for instance, the amount of the globules of the blood descends below $\frac{1}{1000}$, *souffle* is always produced in some part of the circulating organs; always in the arteries, often in the heart. In plethora we do not find any change in the sounds. It is incorrect to say that febrile excitement causes murmurs in the heart; this occurs only when some complication is present. In ague, when the prolongation of the disease has brought on anemia, we may hear *souffle*, but it is the anemia, not the fever, which produces it. Laennec believed that certain morbid conditions of the nervous system might occasion in the heart a bellows murmur. We deny it altogether, and assert that hysteria and hypochondriasis present this symptom only when accompanied by anemia. In a certain number of pregnant women, one of the effects of pregnancy is to diminish the globules of the blood, and, therefore, in some instances, we will not be surprised to hear a *souffle* in the heart.

With these data we can now convert these morbid sounds into signs of disease; and from their varieties of nature, of tone, and of seat, ascertain the morbid state which occasions them.

In the first place, let us first point out their signification in alterations of the heart. We have said that they might be produced by an obstacle to the free passage of the blood from the auricular into the ventricular cavities. This should chiefly be applied to the left cavities, the right side being very rarely diseased.—Laennec had established as a law, that a souffle at the second beat of the heart was characteristic of auriculo-ventricular stricture. This *a priori* assertion, supported by no cases, was, however, for many years blindly adopted, when Dr. Corrigan showed that insufficiency of the aortic valves was also productive of a souffle accompanying the second bruit. Researches were instituted for the purpose of discriminating these two morbid states from each other, and Laennec's opinion began to be doubted when it was found that it was purely theoretical, and not derived from observation. One case only is in existence, of a souffle having been heard at the second beat of the heart, in conjunction with auriculo-ventricular stricture; it has been published by Dr. Andry, in his "*Manuel d'Auscultation*;" but this case is a solitary one, and cannot be considered as a rule. From the interesting researches of Dr. Fauvel, we must conclude that, when the auriculo-ventricular orifice is strictured, a præsyolic bruit is heard, often beginning before the first sound, and finishing with or a little before it. This morbid sound has its greatest intensity towards the apex of the heart, and more or less to the left. We should not forget that some strictures of this same orifice cause no souffle, and that in these cases the diagnosis must be derived from other sources.

When an obstacle exists to the passage of the blood from the ventricular cavities into the arteries—when, in other words, the arterial orifice is strictured—Laennec correctly asserts that a souffle is heard accompanying the first sound of the heart. This sound has its greatest intensity at the base. It is heard almost exclusively in rheumatic endocarditis—a circumstance which shows that a feeble obstacle generates a morbid sound more readily in the arterial than in the other orifices.—When the abnormal murmur is prolonged beyond the first bruit, and occupies also the short silence, or even anticipates slightly over the second bruit, we should conclude that a considerable difficulty exists to the passage of the blood into the aorta.

Morbid sounds accompanying the second bruit of the heart are connected with the reflux of the blood into cavities which it had abandoned; or, in other words, with insufficiency of the valves to close their orifices. This is certain, at least, for the aorta; but the diagnosis of auriculo-ventricular insufficiency is not so far advanced. The general opinion, it is true, is that this disease is productive of a souffle at the first beat of the heart; but it is a question which has not received a definitive solution. The insufficiency of aortic valves may be congenital, or result from perforation, laceration, adhesion, &c.; further, they may be unaltered, and still be inefficient, the aorta having undergone more or less dilatation. In all these various states the second sound of the heart is replaced by a constantly soft bellows-murmur, the greatest intensity of which is at the base of the organ. In false aneurism of the heart, when accidental cavities form in its walls, a souffle is also heard, and generally at the second bruit. With regard to the communication of the right cavities with the left, a souffle is produced, but its diagnostic value is not hitherto well established. If a souffle was ever produced in simple ventricular hypertrophy, it would be heard at the first beat of the heart.

Dr. Aran states that, when the second sound of the heart altogether disappears, it is characteristic of adhesions of the pericardium to the viscous. We do not pledge ourselves for the accuracy of this sign.

The souffle of anemia has special characters, which we will now enumerate: its tone is constantly very soft: it is always a systolic sound, heard most distinctly at the base of the heart, and invariably coincides with vascular murmurs.

Disease of the pericardium occasions morbid sounds. They are caused by the friction of the serous surfaces, rendered more or less rough by the presence of false membranes, or other deposits. They vary from the softest friction to a creaking sound, analogous to that produced by new leather. They may accompany one or the other, or both sounds of the heart, and can readily be distinguished

from sounds due to friction in the pleura; the latter accompanying the respiratory movements, and not the contractions of the heart. They may be continuous or intermittent, according to their cause; but they are always superficial. On listening with attention, a gurgling sound has sometimes been detected; its origin is in the stomach, not in the pericardium. In one curious case, observed at the Hôpital Necker by Drs. Bricheteau and Bean, a gurgling was heard in the precordial region, which those experienced observers compared to the sound produced by the rapid motion of paddles in water. On post-mortem examination, fluids mixed with gas, were found in the pericardium, no signs of putrefaction being present at the time. This solitary case is sufficient to prove the mere possibility of such an occurrence, but it is, we repeat, extremely rare.

3. *Signs furnished by disturbance of the arterial circulation.*—These symptoms may be recognised by inspection, palpation, or auscultation.

Inspection informs us of the increased energy of arterial pulsation. In valvular insufficiency this increased energy is very remarkable, and often assists materially the diagnosis. We also find in cerebral congestion that the pulsations of the carotid and temporal arteries can be recognised by inspection. Aneurisms and erectile tumours present the same sign. In hypochondriasis and hysteria the aortic pulsations may sometimes be seen in the epigastric region—a singular and hitherto unexplained symptom. Patients occasionally feel the arterial throbbing; hypochondriacs, for instance, and persons affected with cerebral congestion, acute gastritis, or phlegmonous inflammation.

By palpation we recognise the frequency, strength, and rhythm of the pulse.

Some physiological circumstances cause the pulse to vary in frequency,—age, for instance. Drs. Jacquemier and Lediberder state, that shortly before birth the pulsations of the fetus in utero vary between 108 and 160; during the first four minutes of life they descend to 72—94, and rise in the course of the first day to 96—154. Scammering asserts that the average of the pulse during the first year is 135; 120 during the second; 110 during the third; 100 during the following years, and 80 at puberty. Gorham gives 123 as the average pulse of children one day old, and 128 during the first week. M. Valleix says that between the second and the twenty-first day the average of the pulse is 90. M. Troussseau, during the first two months of life, considers 137 as the standard of the pulse; from the second to the sixth month, 128; and 120 during the second half of the first year; from one year to eighteen months, 118. The pulse varies at all times of life during sleep. In thirty children, aged from fifteen days to six months, Professor Troussseau found the average of the pulse, awake, 140, and asleep, 121; in twenty-nine children, aged from six to twenty-one months, when awake, 128, and when asleep, 112. The pulse of the child becomes in disease much more frequent than that of the adult, and tends to remain so during convalescence—an important fact which should not be lost sight of. In the adult the average of the arterial pulse is 60—70. But great individual differences are observed; it is rare, however, to find the pulse descend below 50. Napoleon is said to have had only 40 pulsations in one minute. Below this number we believe that a pathological cause may always be found to exist, and to account for the extraordinary slowness of pulsation. In some persons the pulse is naturally quick, 80—90, and even 100. The researches of Drs. Leuret and Mitivici, at the Asylum of La Salpêtrière, show that in the aged the frequency of the pulse increases. At twenty-one years of age the average of the pulse is 65; at seventy-one it is at 74. The pulse of women is more frequent and more changeable than that of men, and, like children, women often preserve a quick pulse during convalescence.

In disease we find sometimes 200 pulsations in one minute; beyond this it is difficult, if not impossible, to count the pulse with any degree of accuracy. The increase of frequency of the pulse is the rule in fever, although some exceptional cases are said to exist in which the pulse remains low, but animal heat is augmented: we believe these cases refer to persons who, during health, have naturally a very slow pulse. Muscular exertion increases both animal heat and the quickness of the arterial beat; but excitement of the nervous system quickens the pulse without augmenting the animal heat; hence what are called nervous subjects usually have a frequent pulse. Debility and loss of blood generally quicken the pulse. In acute disease increase of frequency of the arterial circulation is

usually an unfavourable circumstance, and when it is consequent upon venesection it shows that depletion was improper. The exhibition of some medicines, digitalis for instance, slackens the pulse; in some cerebral affections it is also slower than during health. Of all the diseases of the heart, that which produces most frequently acceleration of the pulse is, beyond doubt, insufficiency of the aortic valves; and in general, when the pulse is diminished in frequency during organic affections of the heart, it is only diminished in appearance and not in reality, some of the arterial pulsations being merely so weak as to escape detection.

With regard to its strength, the pulse may be soft or hard, strong or weak, high or low, depressible, full, wiry, undulating, or double (*bis feriens*). In simple hypertrophy of the heart, the pulse is hard; it is, on the contrary, remarkably soft in atrophy and in dilatation of the viscus. When the aortic orifice is considerably strictured, the pulse loses its strength; it becomes small and wiry (*serre*) in contractions of the auriculo-ventricular orifice. When the aortic valves are insufficient, the pulse is hard and full, a fact accounted for by the almost invariable coincidence of aortic insufficiency with ventricular hypertrophy. Whenever, therefore, in organic disease of the heart, you find the pulse peculiarly full and strong, direct your attention towards aortic insufficiency, which you will seldom fail to detect.

At the ages of sixty-eight or seventy the pulse generally acquires a considerable degree of hardness, perhaps on account of the tendency at that age to hypertrophy of the heart.

The strength of the pulse is also modified by the condition of the blood. In plethora it is full and strong; in confirmed anemia usually weak, on account of the smallness of the column of blood propelled into the arteries, and of the diminished energy of the contractions of the heart. We cannot admit with Dr. Beau that in advanced anemia the pulse is full. We conceive that opinion to have been brought forward by that observer as a theoretical consequence of another view of his—which we do not adopt—viz., the increase of volume of the mass of blood from the augmentation of its watery element.

Hemorrhages are often preceded by that state described in the first series of these lectures under the name of molimen hæmorrhagicum. Besides this general disturbance, the pulse acquires an undulating character. After hemorrhage the pulse is depressed and low, in proportion to its abundance.

It is important to distinguish between two varieties of small pulse, each indicative of a different condition of the system: in one vital power is really depressed, in the other it is concentrated. The pulse of peritonitis and the pulse of advanced fever are both small; but the former is hard, the latter compressible; the former becomes fuller and stronger by depletion, the latter would by venesection be brought still to a lower state. In marked feverishness the pulse becomes full and tense, particularly on the approach of perspiration. It is not explained why in typhoid fever the pulse is so often double (*bis feriens*).^{*} The pulse of internal inflammations is not by any means always the same; compare in this respect the pulse in peritonitis and pneumonia. When the nervous system is deeply affected, the heart is not solicited to powerful action, and the pulse becomes small and sometimes very difficult to feel, as in the pains of painter's colic, of hepatic and nephritic colic, &c.

If we consider the rhythm of the pulse, it may be regular, unequal, irregular, or intermitting. The inequality of the pulse refers more to its strength, and the irregularity to the succession of its beats.

Great nervous disturbances may render the pulse irregular and intermittent; in meningitis, particularly of childhood, after the exhibition of digitalis, before syncope, in confirmed debility, after abundant alvine discharges, this is frequently observed. In acute diseases irregularity of the pulse is uncommon, except when they draw rapidly towards a fatal termination.

Constant and persisting irregularity of the pulse indicates almost always disease of the heart. In hypertrophy of the heart, and in valvular insufficiency, the pulse is seldom irregular; but in strictures of the orifices, on the contrary, we often meet

^{*} [We regard it as produced by a double effort on the part of the heart to expel the quantity of blood, which ordinarily requires but one stroke; it is a sign of debility, and in typhoid fever affords strong indication for the use of wine.—Ep.]

with this symptom, and mostly in strictures of the left auriculo-ventricular passage. The souffle may be absent, but the irregularity of the pulse is quite as important. The aortic orifice, on the contrary, when strictured, more constantly is accompanied with souffle, and less often with irregularity of pulse.

It is frequent after the age of sixty to find the pulse intermittent, no other symptom of disease being present; this almost always indicates incipient alteration of the bicuspid valves. Repose and venerection remove this sign, but aggravate it if improperly repeated. When organic disease of the heart causes these intermissions of the pulse, it is not very unusual to see them suppressed by accidental feverishness, by which the heart is stimulated to increased exertion. Some patients are conscious of these irregularities, from a peculiar sensation experienced in the region of the heart. Not to forget anything, let us also add, that when the principal artery of a limb is obliterated, its pulsations cease to be felt. Corviart stated that some organic diseases of the heart, passive aneurism (dilatation), for instance, might occasion gangrene of the skin of the lower extremities, or even of other parts of the cutaneous surface. No case had, however, been brought forward in support of this opinion; but in July, 1847, an interesting case appeared in the "*Gazette Médicale*" of Paris, observed by Prof. Forget, of Strasbourg; it was one of very considerable stricture of the left auriculo-ventricular orifice; the aortic passage being healthy; the pulsation of the radial artery was unequal and intermittent; none was discernible in the femoral arteries. Mortification showed itself on the feet and legs, and on dissection the iliac and femoral arteries were found obliterated by ancient clots of blood, the vascular walls having remained perfectly unaltered.

4. *Signs derived from investigations of the venous circulation.*—We cannot think of separating the history of the signs furnished by auscultation of the veins, from those yielded by the application of the same method to the arteries. During health no sound is produced by the passage of blood through the veins. In some diseases, on the contrary, we hear a continuous murmur due to this cause. This sound varies considerably in intensity, and may be either simply continuous, or present periodical risings, which indicate the presence at the same time of souffle in the artery and in the vein: it is then called *souffle à double courant*, or *bruit de diable*. In this case, if by pressing upon the vein you arrest the continuous murmur, the intermittent arterial bruit will still be heard, and the nature of the double sound will thus be explained. A sort of cooing is also sometimes detected in the veins, or a buzzing sound; sometimes the bruit is analogous to that which is observed when the ear is brought into close apposition with a large conch or shell; a musical sound is also more frequent in the veins than in the arteries. The continuous venous murmur can be heard only in the neck, in the space circumscribed by the trapezius, scaleni, and sterno-cleido-mastoid muscles, and in the course of the internal jugular vein. When the souffle is heard in the jugular veins, pressure exercised upon these vessels, above the stethoscope, instantly arrests the murmur. This sound is more frequent and more strong on the right than on the left side of the neck. If the larynx be gently pushed away while the veins are examined, the bruit will often be found to lose some of its intensity—a fact which M. Donné explains by supposing that the larynx acts as a kind of sounding-board. During effort the souffle ceases; it is stronger during inspiration than expiration, and is more distinct when the patient stands or sits, than in the reclining attitude; if the head be lower than the body, the murmur often ceases; it is increased by exercise, and diminished by the causes which retard the circulation of the blood in the veins: thus the application of the cupping-boots, invented by Dr. Junod, diminishes its force. Venous murmurs are heard only in one condition of the system, viz. anemia. They are constant when the globules of the blood descend below $\frac{1}{1000}$, and never exist when they average above $\frac{1}{1000}$. In the anemia consequent upon saturnine intoxication, profuse hemorrhage, or convalescence, they may also be detected. When the fibrine or albumen of the blood only has decreased, we find no morbid sounds in the veins; in simple neurosis we do not meet with them, but we find them when neurosis is complicated, as it often is with anemia.

For the purpose of explaining these vascular murmurs, various experiments have been instituted. Thus fluids of different density have been propelled through elastic tubes, and on applying the stethoscope, no sounds were heard when the

density of the injected fluid was considerable, whilst a soufflé, more or less distinct, according to the speed of the motion, was distinguished when the density of the fluid diminished. These experiments, which have now been frequently repeated, do not explain the reason of the production of soufflé, they merely demonstrate a fact; we must leave the solution of the problem to the further researches of natural philosophers.*

Inspection of the veins informs us also of some signs of disease. In effort, and when from any cause the circulation of the heart is embarrassed, the jugular veins become distended. In diseases of the heart, or when the pulmonary functions are much disturbed, a reflux of the blood into the veins of the neck is sometimes observed. M. Martin Solon noticed this sign in animals, in the veins of the superior extremity, and also in the abdomen, where the circulation was much impeded. Swelling of the veins may result from the pressure of a neighbouring tumour. Distension of the veins of the thoracic walls points to an obstacle to the circulation of the blood in the v. cava descendens, either from the presence of a tumour (usually cancer) in the mediastinum, or from aneurism of the aorta. Very lately, Dr. Grisolle met with a case of obliteration of the v. cava descendens from circumscribed phlebitis, accompanied by distension of the veins of the thoracic walls. The veins of the abdominal parietes may also acquire considerable size. In simple ascites, produced by cirrhosis, or chronic peritonitis, they are seldom much developed; but when they become greatly distended, chiefly on the right side, you may depend upon finding a tumour pressing upon the vena cava ascendens, or the v. portarum.

5. *Signs derived from the investigation of the capillaries.*—The state of plenitude, or of vacuity, of the capillary vessels is betrayed by the appearance of the skin, which also permits us to judge of the increase and diminution of the globules of the blood. In chlorosis the skin acquires a greenish tinge, and the visible mucous membranes, the inner face of the lids, the lips, gums, and tongue are remarkably pale. In pulmonary consumption the face becomes very pale, and the red patch, so often noticed on the cheeks, is the result of feverishness. Albuminuria, or Bright's kidney, causes a particular paleness of the countenance, which is at the same time more or less puffed. Organic diseases of the heart cause frequently an œdematous appearance of the face, but at the same time a certain degree of cyanosis. The face is considerably discoloured in chronic gastritis, but is extremely thin. Plethora produces an unusual redness of the skin. Whenever the blood is not properly influenced by the oxygen of the air, whatever may be the cause, the skin acquires a dark, bluish tinge, of a very characteristic nature. We find this colour in diseases of the heart, on communication of the right with the left cavities; and also whenever the venous circulation is greatly embarrassed. We likewise observe it in pulmonary emphysema, and in the second stage of Asiatic cholera. It is, of course, to be met with in true asphyxia, caused by submersion, strangulation, &c., and in those various forms of intoxication which interfere with a proper oxidation of the blood.

In cancerous diseases, particularly in cerebriiform cancer, and when the morbid product betrays a tendency to be developed in several parts of the body, a special straw-coloured hue invades the skin, and is too different from the chlorotic tinge to be ascribed to a similar cause.

In various great classes of diseases clinical medicine will point out special colorations of the skin. We need only name its yellow aspect in jaundice, and its earthy hue in intermittent fever. Clinically speaking, attention to this point may often be useful. For instance, in the advanced periods of typhoid fever the appearance and colour of the face are quite characteristic; further, in delirium, a valuable sign is furnished by the inspection of the conjunctiva: it is injected in meningitis, and pale in typhoid fever. After the prolonged exhibition of nitrate of silver, an indelible bronze colour shows itself upon the skin—a fact which constituted a strong objection to the alleged periodical renovation of our tissues.

6. *Signs derived from examination of the spleen.*—The spleen is an appendix of the circulation, which will now occupy our attention. This viscus is subject to very rapid variations of size—a fact frequently observed in the early stages of diseased

* Vide Report.

heart. Palpation of the left hypochondrium permits us occasionally to feel the protrusion of the enlarged spleen; but percussion is much more useful than palpation for the purpose of ascertaining its dimensions; and much gratitude is due to Professor Piorry for his able researches on this subject. Percussion shows that, when the spleen does not descend below the margin of the ribs, it still may be much enlarged. We should further be aware that the development of gas in the colon or stomach may conceal a part of the extent of the viscus. Increase of size of the spleen is seldom an idiopathic disorder; cancer of that organ is not in general a primary alteration, but appears only long after other parts have been similarly diseased. Hydatids have been met with in the spleen, and also abscesses. Enlargement of the spleen is, therefore, usually one of the symptoms of another disease. It is found in intermittent fever. Observation teaches us that, when the patients are observed in the incipient stage of the malady, the spleen often does not appear increased in size, but that this alteration occurs if the disease be prolonged. After repeated attacks of intermittent fever, the spleen may remain permanently enlarged, and on dissection it is found indurated, and resembling in colour and density a piece of ham. After pernicious intermittent fever the spleen is found in a state of enlargement, accompanied with softening.

In continuous fever the spleen may also increase in size. This is very common in typhoid fever, and coincides with softening of the organ. This is what observation teaches; but when we attempt to explain the coincidence of enlargement of the spleen with ague or fever, we are compelled to acknowledge our ignorance. It is certainly not due only to the presence of febrile excitement; for how many febrile diseases could we mention which are unattended with hypertrophy of the spleen—pneumonia, pleurisy, rheumatism, consumption, &c. In general, we may say that, when chemical analysis shows an increase of fibrine in the blood, the spleen is not enlarged; but when, on the contrary, the fibrine decreases, or tends to decrease, the volume of the spleen is usually augmented—e. g. typhus, plague, yellow fever, and scorbutic disease.

In organic affections of the heart the spleen at first rapidly swells, or diminishes, under the influence of various causes; but at a later period, when the patient dies from the progress of the malady, the spleen is found small and indurated.

We have now examined the signs furnished by the heart, the vessels, and the spleen, and we should inquire into those yielded by the state of the blood contained in their cavities, had we not, during the last session, devoted several lectures of the first series of this course to that important subject. To those lectures we must refer you, in order to avoid repetition and loss of time.

The alterations of the lymphatic glands are generally signs, and seldom idiopathic diseases. In principle we may state that, when a mucous or cutaneous surface becomes diseased, the neighbouring lymphatic glands, traversed by the lymphatic vessels which originate in the unhealthy portion of skin, are swollen and inflamed; but the lymphatic glands being primarily affected, may still betray a general disease, and are a sign of scrofula.

ART. 27.—*The Physical Diagnosis of Aneurism of the Thoracic Aorta.*

By DR. RAY CHARLES GOLDING.

(*Medical Gazette*, Feb. 4 and 11, 1847.)

The aids to the physical diagnosis of thoracic aneurism recognised by the author are comprised under the following heads:—1. Abnormal pulsation. 2. Dulceness on percussion. 3. Alteration in the sounds of the heart. 4. Alterations in the position of the thoracic viscera. 5. Changes in the characters of the respiration and vocal resonance. 6. Changes in the abdominal viscera, and in arterial and venous circulation of the head, neck, and superior extremities.

1. *Abnormal pulsation.*—Under ordinary circumstances, Dr. Golding observes that the pulsation of the heart is not perceptible higher than the third intercostal space; but during hurried breathing, or temporary excitement of the circulation, the boundary may be extended to the second intercostal space, even in the healthy heart. If the pulsation, however, is evident in the hollow of the neck, above the sternum, it is usually due to one of the following causes: tumours pressing on the

large vessels, and receiving impulse from them; an anemic state of the system; and, thirdly, aneurism or preternatural dilatation of the vessels of the heart itself.

The tumours which give rise to pulsations in this situation are usually cancerous, or tubercular degenerations of the lungs, bronchial and mediastinal glands. In chlorosis the pulsation is due to increased irritability of the heart, together with an impoverished condition of the blood. The pulsation of aneurism is progressive, often perceptible over the whole chest, in the epigastric region, and down the back. It is often disproportionate to the heart's impulse, and is not materially influenced by moderate exercise; in which respect it differs from chlorotic pulsation.

In aneurism of the arch of the aorta, the first visible indication of its existence may be a pulsation in the hollow of the neck, above the sternum; in aneurism of the descending portion the pulsation is greatest in the back. In true aneurism, the pulsation is more uniform than in the false. Thus to recapitulate, aneurismal pulsation is progressive; is appreciable in regions in which healthy pulsation is inappreciable; is more intense than that produced by tumours deriving their pulsation from the heart or large vessels; and is not materially increased by the trivial causes which augment the pulsation in anæmia and chlorosis.

2. *Dullness on percussion.*—In a healthy adult, the natural limits of dullness on percussion over the pericardial region are stated to be, during ordinary respiration, a space of two inches square; after a forced expiration, a space three inches square. After a forced inspiration the space rendered dull by a forced expiration becomes more or less resonant. At the upper part of the sternum, a little to its left, there is slight dullness after expiration.

In aneurism of the arch of the aorta the dullness is at first under the upper part of the sternum, but well defined only after expiration. In aneurism of the descending aorta, dullness is not easily defined.

Dullness on percussion, attended with abnormal pulsation, exists only under two circumstances—in aneurism, and where tumours derive a pulsation from their adjacency to a large vessel. Pulsating tumours, not aneurismal, are distinguished from aneurism by two signs: 1st, by the feebleness of their pulsation, compared with an aneurism of the same size; 2d, according to Dr. Stokes, by the pulsation following the stroke of the ventricle, the pulsation of aneurism being synchronous with it.

3. *Alterations in the sounds of the heart—Purring tremor.*—Although, in some instances, the pulsation of aneurism with concomitant bellows-sound may be audible over the greater part of the chest, yet the sounds of the heart itself are seldom audible beyond the precordial region, or, if so, it is the first sound alone that is so perceived.

In false aneurism, the first sound is heard over the whole tumour, unless its size be excessive. In true aneurism, the first sound is heard, though feebly, over the tumour, as is also the second, but in most instances more distinctly than the first sound.

The second sound is muffled in false aneurisms of large size, as well from the amount of concentric lamellæ of fibrin in the sac, and the adhesion of surrounding textures to it, as from the loudness of the systolic bruit accompanying it. The thinner the sac, the more probability of hearing the second sound; so that, if no bruit exists, as in true aneurism, there is no physical reason why the second sound should not be heard.

In false aneurism, on the contrary, where a bellows-murmur exists, whatever increases the force and frequency of the heart's action, develops the attendant bruit in greater intensity; so that the second sound is rarely audible, except over the aortic valves themselves. If there is valvular disease of the heart, or structural changes in the portion of the artery adjacent to the aneurism, the sounds of the heart will be obscured by the morbid sounds elicited under such circumstances, independently of the structure of the aneurismal sac.

The morbid sounds [?] attending false aneurism are two—the bellows-murmur, and the purring tremor; the former is readily distinguished by auscultation, the latter by manipulation of the cardiac region. [Surely a phenomenon which is only recognized by the touch should not be called a sound.—Ed.] The bellows-murmur varies in intensity and intonation, according to the degree of rigidity of the artery. It may be either single or double.

[We need not follow the author in his explanation of the mechanism of the systolic murmur, or in his remarks as to the possibility of its occurrence independently of aneurism. These facts are familiar to the least advanced of our readers.]

In aneurism of the arch of the aorta, the bruit is first heard under the sternum, and in the hollow of the neck; next, on one or both sides of that bone, to a variable extent; and, lastly, over the entire chest. It is heard with the greatest intensity along the blood-vessels from the base of the heart, being less distinct as we approach the apex; in which it differs from the bruit arising from diseases of the mitral valve. In aneurism of the dorsal portion of the aorta, the murmur is heard best between the scapulæ.

The purring tremor depends upon abnormal vibration of the thoracic walls. It is indicative of false aneurism, when accompanied by inordinate pulsation, by dullness on percussion, and a rough systolic murmur. It is not constantly present in true aneurism.

To recapitulate: In true aneurism there is usually no bellows-murmur, no inaudibility of either sound of the heart, nor purring tremor. In false aneurism, a systolic murmur usually exists, accompanied or not by a diastolic one, and not unfrequently with a purring tremor. The second sound of the heart is seldom audible over the sac.

4. *Alterations in the situation of adjacent parts.*—In true aneurism, the parts around the sac adapt themselves to the gradual expansion; in true aneurism, also, adhesions seldom form between the tumour and surrounding soft parts; nor is there any injurious pressure upon them, as in false aneurism, so long as the costal cartilages yield to the pressure.

In false aneurism, from the unyielding character of the sac, the adhesions formed between it and surrounding structures—lesions of the lungs and pleuræ; dropsy from pressure on the veins; general emaciation from obstruction to the passage of the chyle into the veins; asthmatic paroxysms, from irritation of the phrenic pneumogastric and sympathetic nerves; paralysis and violent reflex movements, from implication of the spinal marrow and cord; dyspnœa, dysphagia, chronic vomiting, with pains in the brachial plexus of nerves—are its most usual concomitants. In true aneurism, on the contrary, these distressing symptoms are commonly absent, or are never so distressing; the utmost being erratic pains in the arms and neck. The difference is explained by the yielding of the true aneurism as compared with the false.

The changes in the form of the chest are referable to the following causes: in false aneurism, to the pressure of the tumour on one or other side of the sternum, or directly in its centre; to adhesion of the sac with other structures; and to pulmonary consolidation, or effusion into the pleura and pericardium. In true aneurism, these effects are not produced to the same extent; and, being gradually produced, do not occasion so much functional disturbance.

5. *Changes in the characters of the respiration and voice.*—In true aneurism, the breathing may be unaffected throughout. In the false aneurism there is usually some alteration in the respiratory sounds from the commencement. The signs are referable to the larynx, trachea, and larger bronchi and substances of the lungs.

a. The larynx may be affected with spasm, when the breathing will be sibilant, the percussion-sound and expansion of the chest remaining normal. From pressure on the larynx, the stridulous breathing becomes permanent. From inflammation and consequent thickening of the mucous membrane, râles, sibilous or mucous, arise, according to the amount of secretion.

b. Pressure on a bronchus induces feeble respiration in the corresponding lung, with puerile respiration in the other.

c. The signs referable to the lungs arise from the greater or less condensation of the pulmonary tissue, from pressure, inflammation, or degeneration.

d. The signs referable to the pleura consist of those which indicate serous effusion.

6. *Changes in the abdominal viscera, and general circulation.*—The liver or spleen may be hypertrophied from pressure of an aneurism on the inferior cava, and may be displaced by the mechanical effect of effusion into the pleuræ. Irritation of the phrenic nerve causes hicough and dyspnœa.

The circulation in the head and upper extremities is more deranged in false than in true aneurism. The superficial veins become varicose; there is œdema of the face and neck, which arises from pressure on the veins.

ART. 28.—*On Pericarditis Scorbatica, and its Treatment by Paracentesis.*
By Dr. KYBER.

(Oest. Med. Wochenschr., and Monthly Journal.)

The disease here described is found on the extreme northern coasts of Europe, where scurvy reigns endemically from spring to autumn, and affects almost exclusively the class of sailors, who are, of course, peculiarly exposed to all the causes of the scorbutic diathesis. This form of pericarditis appears to have been described by Cælius Aurelianus under the name of *morbus cardiacus*; but in more modern times has fallen into neglect, partly from the remoteness of the regions in which it prevails, and partly on account of the obscurity of the symptoms, and the deficiency of pathological observations. Dr. Kyber considers it as a very different disease, in its course and phenomena, from ordinary pericarditis. He thinks that its causes are the same as the scurvy, to which it is so closely allied; and remarks that the extent of its epidemic prevalence in a given year is always proportionate to the violence of scurvy in the same year. It seldom appears before February, attains its height about April, declines in summer, and disappears during autumn. It chiefly affects men from twenty-five to forty-two years of age; it has not been observed in women. A fourth of those affected are Russians, and three-fourths are Lettons (Lithuanians, &c.) and Esthonians, men mostly of a relaxed habit, and prone to hypochondriac and nostalgic affections. The external signs of scurvy are not always visible. In fatal cases the pericardium is found enormously distended, often measuring a foot in length, and containing three to eight, or even ten pounds, of dark red, or blackish opaque fluid, composed of serum and fibrin, with blood-corpuscles angular, and otherwise altered in form. The inner surface of the pericardium is covered with a coat of lymph, which is easily torn, reticulated on the free surface, of the colour of cinnamon. It can often be removed in layers, of which the palest and firmest are those attached directly to the membrane. The membrane itself is either injected, or stained with dark-coloured sugillations. On the part covering the heart, the lymph is often irregularly disposed in shreds, having a rugged or honeycomb appearance, and composed of bright red or yellow granules. The heart is diminished in size, and its substance is pale, flaccid, and easily torn. In cases where the fluid has been absorbed, adhesions are found between the layers of the pericardium. A similar exudation to that above described is frequently found in the pleura or peritoneum. The left lung is frequently much compressed by the distended pericardium, the right gorged with blood, or even inflamed.

The author describes the symptoms of this affection as occurring under two forms, acute and chronic; of which the former is commonly primary, the latter supervening secondarily on a catarrhal or rheumatic affection. The acute form begins with a sensation of coldness and prostration, oppression alternating with pain in the chest and epigastrium, rapid painless breathing, and decubitus on the left side; to these follows a discontented, gloomy condition, or complete apathy; with a pulse small, intermitting, or, when the effused fluid reaches two or three pounds, inappreciable. When the quantity of fluid is very large, the extremities are cold, the pupils dilated, the jugular veins distended, the expression exceedingly anxious; consciousness remains unaffected. The sound on percussion may be dull on the left front up to the clavicle; the heart's sounds distinct or inaudible, if the fluid be large in amount; if this be small, there may be friction-sound. The left side of the thorax is distended, and does not move freely; the lung on this side does not act; the right side, on the contrary, has puerile respiration. The epigastrium is protruded, and sensitive on pressure. In the acute form these symptoms may be developed in twelve hours; in the chronic the progress is longer, the danger to life less immediate; but the retrograde process of the disease, in case of amendment, is also much slower, and less satisfactory in its results.

In the treatment of this formidable affection, most of the remedies for ordinary

pericarditis are either inapplicable from the cachectic constitution of the patients, or, if applied, fail to accomplish any good purpose. The apparent certainty of a fatal issue in such cases induced the author to afford a chance of prolonged existence by paracentesis of the pericardium. This operation, however, he has not yet attempted, except in cases where death seemed impending, and where the fatal issue could only be postponed by a bold measure of immediate relief.

The operation performed by the author consists in the insertion of Schuh's trocar between the fourth and fifth ribs of the left side, close to the sternum, and passing it a little obliquely outwards, till the point is felt to enter the pericardium. The trocar is then withdrawn, and the fluid allowed to flow through the canula, which is apt to become blocked up by lymph, and in this case must be kept clear by a stilet, or probe. By this method both the pleura and the internal mammary artery are avoided. The operation is painless, except where it is necessary to remove, by the adaptation of a syringe, either fluid or air which has entered into the cavity. The immediate effects of it are, return of the pulse, removal of the anxiety and dyspnoea, and renewed animal heat, with comfort and cheerfulness of mind; at the same time the friction-sounds return, and the heart's sounds also become again appreciable. In the greater number of cases, life is merely protracted, as the fluid is again effused in a few weeks in as large a quantity as before, and becomes fatal. Nevertheless, in four cases the author has succeeded in accomplishing a radical cure. In three of these he administered, after the operation, the sulphate of quinine, which he recommends to be used in doses of six to fifteen grains every two or three hours, with the object of affecting favourably the capillary system, and preventing the renewed effusion of serum. The dissection of patients who, after an attack of this disease, have died of some other affection, show that when a radical cure takes place, it is through adhesion of the pericardial surfaces, which occurrence the author believes, however, to be much rarer in this than in other forms of pericarditis. He thinks that stimulating injections might possibly conduce to this favourable result, especially as it has appeared to him that the entrance of a certain quantity of air is productive of no bad result, but even seems to stimulate the membrane to a healing action.

In the four cases which were cured by paracentesis, the operation was only once performed. It was repeated (after the lapse of seventeen days) in one case only, and in this the result was unfavourable. He seems to think that if it were performed at an earlier period, it might be more frequently and permanently successful; but he has not thought himself justified in attempting this, having only operated in cases altogether desperate.

[The same disease has been described by Dr. Seidlitz, of St. Petersburg, under the title of Hemorrhagic Pericarditis. Vide Forbes's Brit. and For. Med. Rev., vol. i, p. 262.]

SECT. V.—DISEASES OF THE CHYLOPOIETIC SYSTEM.

ART. 29.—*Extract from Professor Andral's Lectures on General Pathology.—Semeiotics of the Digestive System.*

(Medical Times.)

1. *Signs furnished by the tongue.*—From the modifications brought on by disease in the circulation of the tongue, arise various changes of colour; for instance, a redness, which may be general or limited to the edges, apex, or centre of the organ; it may occupy only the papillæ, and at the same time its surface may be either dry or moist. The surface of the tongue may be smooth, as after desquamation of the epithelium; together with a change of colour, an alteration of size is sometimes observed; diminution, for instance, with redness, is indicative of disease of the stomach. The heat of the tongue may be increased, or may fall below its average standard; and in this latter case the organ acquires a purple hue, as in asphyxia and the blue period of cholera. Blood may also be extravasated on the tongue, and, drying up, leaves a black, fuliginous deposit on its surface. In chlorosis, on the contrary, the part is paler than during health.

The secretions of the tongue may also be altered from the effects of illness. We find it sometimes dry, at others more humid than usual, and occasionally viscid. Universal dryness of the cavity is also observed, without being caused by diseases, as in persons who sleep with their mouths open, and may also proceed from moral causes affecting the nervous system. From the deposition of mucus, of bile, or of blood, the tongue may acquire a white, yellow, green, or even a black colour. Accidentally, particularly when vigorous abstinence is observed, the organ may acquire an unnatural colour from contact with various substances—wine, for instance; when a yellow or white deposit has formed, the tongue is always acid, the saliva remaining alkaline. The centre, edges, or apex of the organ may be the seat of morbid deposits. It is frequent to observe red specks on a white tongue, or to see its edges red and centre white. Abundant mucilaginous and warm drinks, abstinence from food, and relaxation of the bowels from medicine, facilitate the deposition of these morbid secretions, to which some individuals are more predisposed than others.

Changes of the special or common sensation of the tongue are also observed; a sense of heat generally accompanies removal of the epithelium. Neuralgia is also met with, and taste may be diminished, abolished, or perverted.

The movements of the tongue are impeded by its being swollen or dry; when the nervous system is deeply affected, its motions may be tremulous, irregular, uncertain; they may even be abolished altogether, or only one side.

Let us now examine the signification of these various symptoms in the different classes of diseases. In continuous pyrexia, the tongue furnishes more signs than in the intermittent; it assists in the distinction of forms, of complications, and of different degrees of severity of fevers, and leads to some therapeutic indications. In typhoid fever, for instance, the tongue is at first uniformly white, or dotted with red specks, and is generally humid broad, and soft. In favourable cases, this appearance persists throughout the disease, but may also vary; in the sabural form the deposits become thicker, and purgatives are indicated. When at the same time the apex and edges acquire a bright red colour, the exhibition of stimulants should be more guarded; the deposits may also disappear, and the tongue become uniformly red, being at the same time humid or dry. The cases in which these successive modifications are noticed are generally unfavourable, and stimulants would increase their severity. At a later period a black crust forms on the tongue, from extravasation of blood, and the epithelium breaks. It is a generally true remark that dryness and a dark coating of the surface of the tongue correspond with diminution of vital power, alteration of the blood, and depression of the nervous system, and that in such cases blood-letting should be carefully avoided.

The black colour and desiccation of the tongue may appear rapidly during any acute disease, in certain unfavourable conditions of the system. Thus, we often observe it in the phlegmasia of aged subjects, and in typhoid fever; the tongue gradually regains its natural colour and appearance during convalescence, but, until it has become quite healthy, some anxiety is justified. Such are the general rules; but, exceptionally, we find in fever that the tongue may remain natural throughout the disorder: this, however, is of sufficiently rare occurrence to render the accuracy of the diagnosis doubtful. The tongue is also found sometimes to have returned to its natural state, although the recovery does not progress—a circumstance which depends upon the continuance of the intestinal eruption. In eruptive fevers the alterations of the appearance of the tongue chiefly depend upon complications. In scarlatina, however, it acquires often, in the incipient stage, a bright scarlet colour, which may persist during the eruption, and even outlive it. The epithelium peels off, and the congestion of the fances being propagated to the tongue, causes the special redness observed in scarlatina. During variola, dryness, swelling, and a black colour of the organ usually denote a serious complication; it may be occupied by pustules, or remain a long time dry—a sign of a very unfavourable nature, unless the nares are impervious to air. Intermittent pyrexia are not accompanied by any remarkable change of the tongue; during intense chills, however, the tongue may be cold and livid, as in algid fever; in the stage of heat it becomes red, and sometimes dry, but invariably recovers its natural appearance during the sudoral stage of each paroxysm.

Inflammatory congestion of the stomach is usually accompanied by redness of the tongue; but if the inflammation has been so rapid in its progress as to disorganize the viscus in a short time, the tongue may remain perfectly natural. Thus, during the last summer, we met with a case in which, although six gangrenous eschars had formed in the stomach, the tongue had not departed in the least from its usual appearance. In chronic gastritis the tongue is more or less dry and red, and its papillæ congested. In that form of bilious synochus called in France "*embarras gastrique*," the tongue is constantly covered with a uniform layer of white deposit, and is at the same time broad and soft: emetics and purgatives rapidly relieve this condition of the stomach. The perfectly natural aspect of the tongue is truly remarkable in cancer of the stomach, particularly during the first period of the disease, when cancer occupies the submucous cellular tissue. When the mucous membrane is invaded, the tongue sometimes becomes red and dry, and after repeated hæmatemesis, pale and colourless. In *gastralgia*, the tongue preserves its natural characters; but if the neurosis has been consequent upon chronic gastritis, the papillæ of the tongue may have acquired a degree of hypertrophy which may cause some hesitation in the diagnosis. In acute enteritis, colitis, dysentery, *colica pictorum*, the tongue is not modified, unless a complication be present. In cholera, during the blue period only, the tongue presents a special appearance, which we have already noticed.

In diseases of the organs of circulation, the tongue remains natural, unless considerable difficulty exists to the return of venous blood to the heart. In phlebitis it presents the same appearance as in typhoid fever—the black sanguineous coating, which always points to a great depression of vital powers, and to alteration of the blood.

In acute thoracic disorders, pneumonia, for instance, no signs can be extracted from the appearance of the tongue. In the aged, pneumonia is usually accompanied by the formation of dark crusts of desiccated blood, which positively counter-indicate the use of the lancet. In consumption the tongue is natural: at the close of the disease, however, it often becomes the seat of a pultaceous, pseudo-membranous secretion, by which the fatal termination of the case is generally ushered in. In pulmonary emphysema, when respiration is very laborious, a beginning of asphyxia may be observed, when the tongue assumes a bluish tinge, and its temperature at the same time descends below its average standard.

In diseases of serous membranes, the tongue undergoes no change; indeed, it is remarkable to see that organ preserve a natural appearance, in spite of the obstinate vomiting and febrile excitement which accompany peritonitis. In icterus the tongue seldom becomes yellow, whilst the velum is, on the contrary, tinged with bile. Maladies of the urinary organs readily modify the aspect of the tongue: in vesical catarrh, for instance, a dry, fuliginous tongue is not unusual.

When the nervous centres are the seat of morbid change, the sensibility and motility of the tongue are often modified. Its sensibility is not much altered by affections of the brain, but may be more so by diseases of the nerves; thus exquisite pain, or *anæsthesia* of the tongue, may result from an alteration of the fifth pair of nerves, and the organ may lose common or special sensation. Paralysis of motion of the tongue is the sign of many cerebral disorders. In general, the apex of the tongue, when caused by disease of one cerebral hemisphere, is deviated towards the paralyzed side. During the first days which follow apoplexy, it often happens that the tongue cannot be protruded from the mouth. In paralysis of the insane, (an improper expression, that form of paralysis not being special to the demented,) the first symptom of the disease is stuttering and difficulty of utterance; the diminution of muscular power in the limbs shows itself only later; and, in proportion with its progress, the intellect is observed also gradually to grow weaker. Paralysis of the tongue may be likewise produced without any physical change in the nervous centres—in cases of hysteria, for instance. It is always important to ascertain if paralysis of the face be the result of cerebral hemorrhage, or the effect of cold upon the *portio dura*; when paralysis is idiopathic, the tongue is never deviated; on the contrary, when distortion of the countenance is symptomatic of cerebral disease, the tongue is generally more or less deviated to one side.

2. *Signs furnished by exploration of the intestines.*—The sensibility of the intestines may be increased by disease; it is more increased, however, in colitis than in enteritis. In subjects affected with typhoid fever we observe great differences in this respect, some experiencing little or no pain; others, on the contrary, suffering considerably on the slightest pressure over the abdomen, and particularly over the ileo-cæcal region; these differences are to be explained by the more or less superficial nature of the ulcerations; when they are deep, and repose upon the peritoneum, they are usually accompanied with great tenderness of the abdomen. In the enteritis which is so frequently observed during the last stage of consumption, the pain is sometimes very great, for the reason above stated. In acute colitis, dysentery, for instance, the patients complain of great pain, not precisely on pressure, but in paroxysms; the sufferings can be traced from the cæcum to the rectum, and cause a sense of weight and spasmodic contractions of a very distressing nature. In chronic colitis more pain is present than in chronic enteritis. Persons who have had dysentery sometimes preserve a morbid sensibility of the intestines, and their motions are most painful, particularly when the bowels are slightly confined—a state of things which requires the combined exhibition of aperients and narcotics. Intussusception is also productive of much suffering, and is attended with obstinate vomiting and other symptoms of strangulation. Accumulation of solid matter or of gas may be equally productive of pain; but tubercles, or cancer of the intestines, do not cause pain; except, indeed, cancer of the rectum. We should also add, that in cancer of the intestines pain is always observed whenever the disease causes obstruction of the tube, and prevents the progress of the alimentary bolus. Piles, occasioning congestion of the rectum, may also occasion intestinal suffering; and the burning pain which attends fissura ani is special to that malady.

Most intestinal pains bear the name of colic, to which is superadded an epithet—bilious, inflammatory, nervous, &c.—to designate its nature. Nervous colic, or enteralgia, may arise spontaneously, and is remarkable sometimes by its extreme intensity and the faintness which it produces; it is occasionally the result of rheumatism; and in the disease called “colic of Madrid,” it is due to the sudden changes of temperature frequently noticed in the climate of that city. In the neighbourhood of the Ganges a similar form of colic is also observed, under the influence of the same causes. In colica pictonum, enteralgia is also present; it is not always relieved by pressure, but pressure certainly diminishes the sufferings of the patient during their exacerbations. The form of the abdomen in this disease is not changed, nor its walls retracted, as it has been so often erroneously stated. Nervous colic has been known to assume an epidemic form, at sea, for instance, after the prevalence of cold winds. In the colic caused by copper, the pain is also very great, but is accompanied by diarrhœa, and the disease certainly participates more of the nature of inflammation than of that of neurosis.

3. *Signs furnished by the alvine evacuations.*—These evacuations may escape from abnormal orifices, from fistulæ situated on the abdominal walls, or from openings into the bladder, vagina, &c. The anus may be imperforate in new-born children, &c. The stools may be suppressed in intestinal disease, at the outset of entero-colitis, or, after diarrhœa or purgatives, in enteralgia and colica pictonum; they also are absent when the passage through the intestines is obstructed, whatever the cause of the obstruction: in cerebral or spinal disease, occasioning paralysis of the muscular coat of the intestines; or when spasmodic contraction of a part of the intestines interferes with the passage of the matter contained within their cavity. In diseases not affecting primarily the bowels, we also may find suppression of the motions; thus the bowels are usually constipated in peritonitis, or diseases of the stomach, &c.

The increase of the alvine discharges bears the name of diarrhœa. Thus, in enteritis, whenever the follicles are enlarged, diarrhœa generally appears; this we observe in chronic diarrhœa, in cholera, &c. These diarrhœic stools may consist of mucous matter, or of a bilious flux, which does not by any means require intestinal inflammation for its production, but may simply result from increased hepatic secretion. In other instances the increased number of the motions is caused entirely by a greater activity of the peristaltic contractions of the intestines—a fact we often notice as a consequence of mental emotion, and in the diarrhœa

of children without the interference of inflammation. The quality of alvine discharges may also be modified. They may, for instance, contain undigested articles of food: when the intestines are irritated in one point, it is a fact demonstrated by observation that gastric digestion is incomplete, and allows unaltered nutriment to pass into the bowels: again, when the stomach is incapacitated by disease from performing chymification. In children, lientery, as this form of malady is termed, is not unusual, and milk is expelled in solid masses with the fæces. When the fæces contain no bile, they are soft and ash-coloured; this symptom is always connected with the presence of some obstacle to the free circulation of bile in the ductus choledochus or hepaticus. Diminution of the biliary secretion also causes irregularity of digestion, costiveness, and change of colour of the fæces; this state of things, not sufficiently noticed in France, has always excited much, perhaps too much, attention in England. Bile may also be discharged too copiously into the bowels, and communicate to the stools a dark-green or yellow colour. This is generally indicative of intestinal irritation, and may be connected with a morbid state of the liver. The green colour of the expelled bile is due to the modification of that fluid by the acescent state of the intestinal mucous membrane. Biliary discharges are frequently observed in spring and summer; they are even endemic in equatorial climates. The evacuations may be of a mucous nature: in dysentery, for instance, the stools are constituted by mucus tinged with blood; the mucus may be very consistent, and has been in that state mistaken for fragments of tænia, or it may be liquefied, and even puriform. In some morbid cases a watery discharge is observed, analogous, perhaps, in nature to the perspiratory fluid secreted by the skin.

The stools may also contain substances which are not usually met with in the intestines; a portion of intestine, for instance, detached by gangrene may be expelled; fragments of false membranes are sometimes rejected. Blood, when it has been recently extravasated, may pass with all its physical characters into the motions; but when the internal hemorrhage is less recent, it generally communicates to the evacuations a black colour. The former is observed in piles, dysentery, &c.; the latter in typhoid fever, and cancer of the intestines or of the stomach. The rice-water stools of cholera have been said to be constituted by the serum of the blood, and on this hypothesis an ingenious theory of the disease has been constructed. The fluid of these motions contains, however, no albumen, and, therefore, the theory falls to the ground; as to the white particles which float in the fluid, they are formed of innumerable corpuscles, furnished with very distinct nuclei and nucleoli, and are perfectly analogous to the corpuscles of pus. Pus is also found in the alvine discharges, and is always the symptom of a certain number of well-determined maladies; it is found in ulcerous colitis and in advanced cancers; in abscess of the liver and ovary; and may result from the opening into the intestines of purulent collections formed in various parts of the pelvis. False membranes, detected in the stools, are the sure signs of inflammation of the intestines. Intestinal or hepatic entozoa, calculi, and foreign bodies may also be contained in the motions. Their colour is sometimes changed by various medicines: they are coloured green by calomel, and black by iron. Microscopic examination of the fæces in cancer would probably show them to contain cancerous cells; and crystals have been met with, which Dr. Remak, of Berlin, erroneously asserts to be special to typhoid fever.

Gases may be produced in the intestine, hence borborygmi, indicative of indigestion and enteritis; hence, also, tympanitis, which is produced whenever an obstacle interferes with the circulation of the contents of the bowels, or in fevers, when the nervous system participates in the general disturbance. It is a singular and unprecedented fact, that in typhoid fever it is not the diseased part of the intestines which is occupied by tympanitis, but the colon; in fevers this accumulation of gas is always a sign of the most unfavourable nature. In neurosis, tympanitis is also a common symptom; we find it in hysteria and in hypochondriasis.

By ocular inspection we detect many diseases of the digestive tube; meteorism, tumours, piles, cancer of the rectum, syphilitic sores, fissura ani, fistula, abscess, displacement of the rectum, &c. Palpation informs us of the presence of fluids and gas in the intestines, shows the presence of stercoral tumours or cancerous

degenerations, spasmodic contraction, intussusception; and percussion permits us to ascertain correctly the volume and shape of tumours, &c.

ART. 30.—*On Chronic Amygdalitis, and the Treatment of Indurated Tonsils.*

By Dr. J. NAUDIN.

The tonsils, by their situation, are often exposed to attacks of inflammation, which, after repeated occurrence, not unfrequently passes into a chronic state of induration. The disease is generally non-malignant, and affects both tonsils; carcinomatous induration being, on the contrary, much more rare, and affecting usually but one. The seat of this hypertrophy is neither the mucous membrane nor the cellular tissue, though their nutrition may also be altered, but in the glandular substance itself. The cause of the frequent occurrence of hypertrophy of glandular organs is, that possessing a supply of arterial blood infinitely greater than is necessary for their nutrition, a large portion of which is destined to supply the material for secretion, any circumstance which produces a suppression of this secretion causes the excess of arterial blood to become extended in the nutrition of the glandular substance, thereby inducing its hypertrophy and induration.—Physicians are generally very neglectful of chronic inflammation of the tonsils, too often allowing the case to run on, and finally putting it into the hands of the surgeon for excision. The means, if any, employed with the view of reducing the tumours, are generally insufficient; and our author, instead of blisters, astringent gargles, iodine, &c., substitutes gentle cauterization as employed in chronic inflammation of other organs. Instead of producing a slow progressive destruction of the tonsils, he aims at their preservation, and for this purpose employs a solution of nitrate of silver, 3 gr. to ʒj of water, increasing the strength by 3 gr. up to ʒij of the nitrate, in the same quantity of water, and also applying the solid caustic to the surface of those hollows which usually exist in those tonsils, so that all parts may be equally affected. During one sitting the tonsils are painted twice or thrice; the mouth is then well washed with water.

This cauterization must be repeated every two or three weeks, until the tonsils are restored to their normal size, and then gradually discontinued; it produces no ill consequences, and even children speedily return to their play. Should the parts become accustomed to the caustic, it must either be discontinued for a time, or another substituted, as Lugol's diluted solution of iodine. In two cases related by our author, nitrate alone was employed. Both, æt. 13 and 14, had been affected for years, and were cured in two and a half to three months; in a third case, that of a girl, æt. 11, the disease was extensive and obstinate, requiring four months' use of the caustic, besides the use of hyd. potass. and iodine internally, and as ointment. In all these cases no return has been observed after the lapse of years, and the previous disposition to inflammation of the tonsils has been extinguished.

Journ. de Toulouse, Juin et Juillet, 1846.

ART. 31.—*Ulcerations of the Colon from the presence of a Calculus—Peritonitis—Death.* Case by Mr. SNAPE.—A man, æt. 20, had frequently complained of constipation, but had always been relieved by cathartic medicine. When seen by Mr. Snape, he was complaining of the obstinate state of his bowels, attended as before with pain, and drew his attention to a large hard tumour, situated in the left hypochondriac region, which was quite immovable. There was no tenderness on pressing the abdomen generally; tongue clean; pulse 80; appetite good; no thirst; urine natural in quantity, but depositing a sediment of lithic acid. He ordered a farinaceous diet, a bran-poultice to be applied to the abdomen, and exhibited castor-oil emulsion, with a little hyoscyamus, every four hours. On visiting him the next day, he found his treatment had had the desired effect; the bowels had been freely relieved; pain had vanished, and he stated that he felt better than he had done for six months. Upon examining his abdomen, he could not now find even a trace of the tumour, which led him to hope that it had been simply a collection of hardened feces, which were now got rid of. For several days he continued taking the emulsion once or twice, which had the effect of keeping him (as he said) quite well.

About a fortnight after his admission he again complained of not being so well,

having for some days given up taking his medicine. Upon examining his abdomen now, Mr. Snape again felt the tumour of the same size and hardness as before, but situated in the *umbilical* region. He resorted to the same treatment which had succeeded before, giving, in addition, hyd. c. cret. gr. v. at night. The next day he discovered the tumour in the right hypochondriac region, but his bowels had acted properly, and he stated that he felt quite well. Day after day he found the tumour in some fresh spot corresponding to the course of the colon, until Thursday, the 28th ult., when again it was not to be felt, and the patient expressed a desire to go out and resume his work. Mr. Snape advised him to stay a few days longer, to which he assented, although he said "he felt quite well, and able to do anything."

On November 1st he was found in a state of collapse, bedewed with perspiration, abdomen tympanitic, pulse small: he died the same day.

On examining the cavity of the abdomen, intense inflammation of the peritoneum was found; the omentum and intestines were closely matted together, and there was copious sero-purulent effusion. In the colon extensive ulceration was found, and in one portion of its course a perforation, through which fæces had escaped. Just above the sigmoid flexure an enormous calculus, measuring 10½ inches in its long circumference, was observed, which Mr. Snape supposes was a biliary concretion, increased in size by subsequent deposit. The common duct was dilated sufficiently to admit three fingers.

Medical Times, Nov. 13.

ART. 32.—*Acetate of Lead in Tympanites*.—Dr. Badeley mentions a case of temporary intestinal obstruction, with excessive tympanitic distension, in which the best effects followed the exhibition of the acetate of lead. Purgatives had failed to procure an evacuation. Vomiting supervened, with hiccough, and the coils of distended bowels could be felt through the abdomen. Feeling convinced that the symptoms depended upon a loss of tone in the muscular fibres of the alimentary canal, alum was ordered, with turpentine injections, and having failed, three grains of the acetate of lead, with one-sixth of a grain of morphia, were given every four hours. This was soon followed by the expulsion of large quantities of gas, and copious dejections. The hiccough and vomiting declined, and the man was soon convalescent.

Lancet, Jan. 8.

ART. 33.—*Treatment of Flatulence*. By Dr. Dick.—When the tongue is pale, when there is no tenderness on pressure at the epigastrium, or in the right hypochondrium, when there is no thirst, no dry heat of skin, and no quickness of pulse, flatulence requires carminatives, bitters, and even stimulants. Thus the patient may be directed to use freely any of the following waters:—cinnamon, fennel, cassia, pimento, peppermint, pennyroyal, mint, Cologne, lavender, caraway, aniseed, dill, balm; to these some of the respective tinctures may be added. With the carminative waters just named, one or more of the following bitters may be given—chamomile, quassia, columba, absinthium, rhubarb, to which may be added valerian, castoreum, and camphor. As an expellent of flatus existing in the bowels, assafoetida, or oil of turpentine, the former given by the mouth, or in injection, the latter in injection, are superior to all things else, excepting, perhaps, the infusion and spirit of armoracia.

Secondly. If flatulence is accompanied with a dry and preternaturally red tongue and fauces, with thirst, heat of skin, tenderness of epigastrium, scanty and high-coloured urine, heartburn, &c.—in short, with symptoms of inflammatory irritation of the gastro-duodenal mucous membrane, then alteratives are clearly indicated, or rather such substances as promote the secretions of the mucous membrane; these are ipecacuan, sulphur, potassio-tartrate of antimony, the various preparations of mercury, magnesia, iodine, nitrate of silver. These we would be disposed to give a trial to successively, almost in the order in which we have named them. But a great variety of other means may be tried, and among these the following, in those cases in which flatulence is accompanied with obvious torpor and fulness of the liver, as well as with gastric irritation. The wine of colchicum, for example, may be given with a few grains of the sulphate of potass,

or if there are acid eructations and heartburn, with carbonate of magnesia; the infusion or tincture of arnica may be given in the same combinations, and so may the powder and extract of cusparia. In short, instead of perplexing our minds with the confused subdivisions of authors, whose classifications betray they had no clear and scientific notions of the proper treatment of flatulence, the simple point to be ascertained and kept in view is, whether flatulence (always a mere symptom) is or is not accompanied with inflammatory irritation, is or is not attended with stomachic debility—and according as we decide these queries, we adopt the former or latter modes of treatment above enumerated.

When the eructations are acid, the most of vegetables in common use, except the cereal, must be abstained from. As Dr. Prout remarks, that, in the treatment of saccharine diabetes, he has seen the incantious use of one or two ripe pears undo all the apparent improvement of weeks or months of skillful medicinal and dietetic management, so it often happens in persons subject to flatulence, that a very minute and apparently trivial indulgence induces not unfrequently the utmost degree of uncomfortable gaseous distension, with its attendant sufferings, headache, &c. This is less to be wondered at, when it is considered that, according to Dr. Hales, the quantity of gas extracted from an apple, in the course of its undergoing the fermentative process, amounts to nearly 700 times its bulk.

Cases occur in both sexes of a sort of passive flatulence, so to name it, namely, meteorismus, unattended with any marked signs of stomachic or intestinal irritation, or with much discomfot, excepting the frequent necessity of getting rid of the flatus. In such cases, the flatus is usually nearly or wholly free of ill odour, and probably consists of nitrogen, oxygen, and perhaps carbonic acid, in nearly the proportions of atmospheric air. The treatment of these cases I have found more troublesome than their simple nature would lead, *a priori*, to expect. One or two have entirely baffled every form of treatment adopted, and the last accounts from one patient, a clergyman in the south of England, inform me that the annoying affection continues just as it was when he first put himself under my care, nearly two years ago.

There can be little doubt that the occurrence of flatulence is immensely favoured by the temperature at which many persons swallow soups, coffee, tea, &c., and the debilitating effect which large and systematic potations of the latter have on the functions and secretions of the gastro-enteric mucous membrane. The truth is, that cold, applied in drinks of low temperature, and even in iced fluids, is not less remarkable as a *stomachic tonic*, than is the *external* application of cold as a tonic of the sentient and motor nerves.

Lancet, Nov. 20, 1847.

SECT. VI.—DISEASES OF UNCERTAIN OR VARIABLE SEAT.

ART. 34.—*Therapeutical Action of Phosphate of Ammonia in Gout and Rheumatism.*—Dr. Edwards confirms the advantages of this medicine in certain diseases, which appear to depend upon the presence of an excess of lithic acid, or lithates in the blood. He has used it in acute rheumatism, when the inflammatory symptoms had subsided.

In *chronic articular rheumatism*, he has used it after the bowels have been well cleansed by calomel or other purgatives, or, if the constitution is vigorous, the vascular action strong, and heat high, after venesection, and has got rid of these attacks much sooner than formerly. In muscular rheumatism, whether of the acute or chronic form, he has employed this remedy with greater success than in any other. After the action of the intestinal canal was somewhat regulated, he has generally been able, without further preface, to administer it in lumbago, pleurodynia, ischio-gluteal rheumatism, epicranial, cervical, and facial rheumatism. In these he has seen it of peculiar service, and in one case of rheumatic ophthalmia, after the inflammatory symptoms had been reduced, and the patient was annoyed with the pains about the eye and brow, in which he administered it, it was attended with alleviation and subsidence of the pains within sixteen hours of being commenced.

With respect to gout, the author's opportunities of applying this remedy have been less numerous than in rheumatism, yet numerous enough to enable him to speak with certainty of its great value as a remedy; when given in the doses mentioned, it produces but little sensible operation beyond that most important of all, the gradual (in two or three cases I have seen it act almost instantaneously), diminution of the distressing symptoms. With this view, he has always prefaced its use by well cleansing out the bowels with proper aperients, and then ordering the phosphate every eight hours in simple water, or occasionally in conjunction with a bitter infusion and spirits of nitre, the best infusion, perhaps, being that of the serpentaria, as it determines to the skin. Attention, both before and during the administration of the phosphate, to the due performance of the various functions connected with the primary assimilating processes is of great moment. A slight alterative aperient of mercurial pill and compound rhubarb pill, given every other night, twice or thrice, has answered well. He has seldom meddled with the inflamed part, beyond ordering perfect rest, and exciting perspiration by means of fleecy hosiery or flannel, covered over with oil-silk, occasionally a light anodyne poultice or narcotic fomentation, and of course a consistent diet, and abstinence from everything irritating both of body and mind, were points duly remembered. In the third case in which he employed the salt, it was strikingly beneficial. A poor man, a dispensary patient, a very gouty subject, had had an attack for two or three weeks, being confined wholly to his bed or arm-chair. He had tried most of the renowned remedies, with little or no relief. On a Wednesday afternoon he commenced taking the phosphate of ammonia (ten grains every eight hours), and on the Friday morning following he attended at the dispensary, walking each way, and informed Dr. Edwards he had lost all pain, and that the swelling and stiffness were rapidly subsiding. To use his own words, "the second dose of this last mixture had acted like a charm." On the Tuesday following he began his work again as a mason. Dr. Edwards ordered his continuance for a short time of the salt, combining it with a bitter infusion, and the regular use of a mild aperient.

This latter point of continuing the remedy a short time, Dr. Edwards considers a matter of importance, paying at the same time particular attention to the condition of the digestive organs. With regard to the value of this salt as a solvent upon the gouty concretions when formed, his experience does not enable him to speak with any certainty, but his observations lead him to state in a positive manner its powers to arrest the increase, and perhaps the formation of them. So great is the solvent action of the phosphate of ammonia, after being introduced into the system, upon uric acid, that he is almost inclined to think calculous disease of that nature may be very greatly benefited by its employment. In lithic acid gravel he has frequently used it, and experience has taught him that it causes a very rapid decrease and disappearance of the red crystalline sediment; it quickly reaches the urine (as he has testified oftentimes upon his own person) when largely diluted. Mr. Alexander Ure* has recommended the benzoic acid for the same purpose. Dr. Edwards has used it many times, but never with so marked a result as with the phosphate of ammonia.

Prov. Jour. Nov. 27.

ART. 35.—Cold Applications, with Opium and Quinine, in Acute Rheumatism.—In a case of acute rheumatism, complicated with nodes on the shins, and syphilis, an ineffectual attempt to obtain the specific effects of mercury had been made in the commencement of the case. When in health, the patient weighed 220 pounds. He had been confined to bed four months, and when admitted, was unable to bend the knee, wrist, elbow, or finger-joints, without great pain. Cold-water dressings were kept constantly applied to the painful joints, half diet was allowed, and he took at bedtime, every night, two pills, composed of four grains of opium, and four grains of sulphate of quinine. On the tenth day of treatment, he left his bed. His weight was 136 pounds. At the expiration of twenty days the pain had disappeared; the quinine and opium were discontinued. There still remained thickening and stiffness about the joints. For this condition, phosphoric acid in syrup

* *Med.-Chir. Trans.*, Vol. xxiv.

of *Prunus Virginiana* was prescribed, as follows: R. Sol. acid. phosphorici, dr. ij; Syrup. pruni virg., q. s. ut ft. oz. viij; M. Capt. oz. ss, in Aq. font., oz. iv, quarta quaq. hora. Under this treatment the functions of the joints were perfectly restored, and the patient gained twenty pounds in weight in thirty days, and the nodes disappeared.

While taking the quinine and opium, the bowels, which had been previously constipated, were regularly moved once in twenty-four hours; but under the use of phosphoric acid, it was found necessary to occasionally prescribe castor-oil, and an anodyne at night.

Dr. Ruschenberger, of the U.S. navy, who reports the case, has been in the habit of treating acute rheumatism, upwards of two years, by cold applications to the hot and swollen joints, and administering at night from three to six grains of opium, with an equal quantity of sulphate of quinine, regulating the quantity by the condition of the pupil alone. With a dilated pupil, he found patients to bear the largest dose without inconvenience, and he has not yet met a single case in which pain was not completely removed in from twenty-four to thirty-six hours, provided the attack were recent, or of not more than a week's duration. Large doses of opium, especially in combination with sulphate of quinine, do not tend to constipate, but rather to relax the bowels. After the pain is removed by the opium, he then resorts to the use of the iodide of potassium, in medium doses, say from five, increased gradually, to ten grains, three or four times daily.

Passed Assistant-surgeon S. Holmes, who witnessed the results of this practice in his hands, has made trial of it on the coast of Africa, and with entire satisfaction.

American Journ. of the Med. Sciences, July.

SECT. VII.—DISEASES OF THE URINARY SYSTEM.

ART. 36.—*Extracts from Professor Andral's Lectures.—Semeiotics of the Renal System.*

(*Medical Times*, Feb. 19, 1848.)

We now turn to those signs of disease furnished by the urinary apparatus. We described in the first series of these lectures the alterations of urine, and will now only consider them as symptoms of disease. The quantity of the renal secretion may be increased, as in polydipsia—a disease which may be idiopathic, or connected with diabetes mellitus. The urine is diminished, on the contrary, in febrile excitement, and when abundant perspiration is produced, the secretion may be altogether suppressed—a fact chiefly observed in Asiatic cholera. The colour of urine depends in a great measure upon the proportion of water which it contains; if the secretion be bloody, the urine is of a dark red colour. In hysteria, in chlorosis, the urine is pale, because the solid elements are less abundant; in hysteria, the colourless appearance is remarkable and unexplained. Urine may be coloured by the presence of blood or bile: the blood may have oozed from the urethra, or come from the bladder, either from idiopathic hemorrhage, vesical calculus, or cancerous disorganization. When the blood comes from the kidney it usually indicates the presence of concretions, and sometimes, but rarely, precedes the development of albuminuria. Hematuria may finally be symptomatic of a general tendency to hemorrhage—as scorbutus, purpura, typhus, yellow-fever, &c. Bile is found in the urine only when jaundice is present, or a very short time before its appearance. When the greenish colour is not distinct, it becomes so by the addition of a few drops of nitric acid. The odour of urine is never fetid in disease, except when it has sojourned in a diseased bladder. Some substances communicate a peculiar odour to the secretion, asparagus and turpentine, for instance. The taste of urine is sweet only in diabetes mellitus. In all diseases, as well as in health, the urine remains acid or neutral. If the bladder be diseased, or the urine be allowed to remain a long time without being removed, it may acquire an alkaline reaction. Thus, in disorders of the spinal cord, in which the bladder is paralyzed, the urine becomes alkaline; but in other maladies this is

never the case; even in albuminuria, the renal secretion remains acid. Accidentally, during the course of disease, for one or two days, and under the influence of special articles of food, the urine may cease to be acid; but not in any continuous manner, nor for any length of time. During disease, urine may spontaneously, or from the influence of chemical reagents, lose its transparency. Let us examine the deposits in these two different cases.

When the urine becomes spontaneously opaque, the disturbance may be general throughout the fluid, or form at the bottom of the vase sediments and deposits, or assemble in the middle, or on the surface, in the shape of clouds or *eneoremata*. The latter merely betray the presence of mucus in a healthy or almost healthy state; they are observed in leucorrhœa, in feverishness, and sometimes in health. Troubled urine (*urine jumentouse*) indicates the presence of abundant mucus, or of the acid lithate of ammonia; two circumstances which can be readily distinguished from each other; heat and nitric acid dissolving the lithate, and exercising no action upon mucus. Excess of lithate is observed at the incipient stage of many diseases—in dyspepsia, feverishness, &c. We will now enumerate the various sediments of urine: 1st. Uric acid forms a sediment of lozengic crystals, and is characteristic of red gravel. 2. The phosphate of ammonia and magnesia, or phosphate of lime; these substances depose spontaneously in the urine in white gravel, but are thrown off in the bladder when pus is in contact with the urine. It is this triple phosphate which is not unfrequently observed upon the surface of catheters. 3d. Lithate of ammonia; white, when in a pure state: pink, when mixed with a certain colouring matter, formerly called *rosaic acid*, as in cases of intense febrile excitement, attended with profuse perspiration, or of cirrhosis accompanied by considerable ascites. This deposit, which dissolves on the addition of nitric acid, or the application of moderate heat, was for a long time erroneously looked upon as critical in the course of febrile diseases—an opinion disproved by rigorous observation. 4th. Blood may be observed in urine, and its nature is in general readily ascertained. 5th. Mucus, when abundant, assembles at the bottom of the vase which contains urine, and indicates vesical catarrh, and cystitis. It is not removed by nitric acid, and is very slightly diminished by heat. 6th. Pus, when found in urine, always communicates to it an alkaline reaction, and an ammoniacal odour. The pus may have originated in the urethra, bladder, or kidneys, or proceed from some abscess which has opened into the urinary cavities. 7th. False membranes are sometimes deposited from urine, a fact not uncommon after the application of the *emplastrum lyttæ* to any part of the skin. 8th. The urine may present deposits which attest the presence of cancer in the bladder; and sometimes the urine is altogether replaced by a fetid liquid, a forerunner of a speedy fatal termination. 9th. Spermatic matter may be deposited in the renal secretions, but its nature must be tested by the microscope. And, finally, the urine may contain *feces*, when a morbid communication has accidentally been established between the lower part of the digestive tube and the urinary organs.

All these deposits may spontaneously be formed in the urine; but others may also be obtained artificially, and are of considerable value to the diagnosis. Thus, for instance, lithate of ammonia may exist in urine without being spontaneously deposited. The addition of two or three drops of nitric acid cause the precipitate to form, and a few drops more of the acid dissolve it again. Nitric acid, and heat also, sometimes cause the coagulation of a certain quantity of albumen contained in the renal secretion. If the urine has become alkaline, heat alone, without the previous addition of acid, will be insufficient to cause coagulation of the albumen. Heat occasionally produces the formation of a slight deposit, which disappears with effervescence upon the addition of nitric acid. This deposit is constituted by carbonates; but we do not at present very clearly understand the cause or the mechanism of their formation. The discovery of the accidental presence of albumen in urine is a conquest of modern science; and Dr. Bright established that this fact was always connected with a variety of dropsy, in which the kidney is constantly diseased. Whenever for any length of time we have found the urine albuminous, we have always found, also, the kidneys altered in a manner which it is not our present object to examine in its various stages, degrees, and, perhaps, natures. This albuminous urine is pale and frothy; its specific gravity is much diminished; some of its solid elements, urea, for

instance, ceasing to be excreted from the kidneys. In disease of the heart, when the kidneys are the seat of considerable congestion, the urine may also contain albumen in a temporary manner. In all these instances the debility of the patient gradually increases with the daily loss of albumen.

In diabetes mellitus, caustic potass, heat, or milk of lime, produces in the urine a brownish deposit, consisting of glucosis, or grape-sugar. According to the quantity of the latter, the colour may vary from a lemon colour to a dark brown. The urine should, in the first place, be tested by heat, when albumen, if any be present, will be coagulated; after filtration the fluid should be submitted to contact with one of the above-named re-agents, which will detect very small quantities of sugar. Trommerz's fluid (potass and tartrate of copper) has also been used for the same purpose, and forms in diabetic urine a precipitate, at first yellow and afterwards red, constituted by protoxide of copper. These various chemical actions should be completed by evaporating the urine to a syrupy consistency, and, by the addition of a ferment, endeavouring to establish alcoholic fermentation. M. Guévenne discovered in diabetic urine the presence of microscopic globules of ferment. In diabetes mellitus, the specific gravity of the urine is always increased, and oscillates between 1022 to 1044: 1018 being the average density of healthy urine. Its colour is usually pale, and its odour feeble, except when boiled, a distinct smell of burned sugar being then produced; when fermented, it exhales the peculiar smell of alcoholic fluids. Its taste is not always very distinct, and one of the best signs of the presence of sugar in the urine is the fact discovered by M. Biot, that it polarizes light to the right side. The observation has been fully confirmed by the researches of Bouchardat and Martin Solon. We should be aware that albumen deviates the rays of light to the left, and, therefore, when the presence of albumen coincides in the urine with that of sugar, the deviations may neutralize each other, and lead to an inaccurate appreciation of the quantity of sugar. It is, therefore, necessary to remove the albumen first, by coagulation and filtration, before the urine be tested by the polarimeter.

ART. 37.—On *Albuminuria independent of Renal Disease*. By Dr. FINGER, of Prague.—Among about 600 medical cases of various kinds in the general hospital at Prague, the urine was found to contain albumen in 155. Among these were—

Tuberculosis	186 cases.	Albuminuria in	46
Typhus	88 "		29
Puerperal fever	46 "		32
Carcinoma	14 "		6
Chlorosis	6 "		2
Acute rheumatism	18 "		0
Ague	10 "		1
Pneumonia	33 "		15
Pleurisy	14 "		2
Peritonitis	6 "		2
Chronic catarrh	16 "		3
Diarrhoea	65 "		8
Disease of heart	18 "		7
Epilepsy	2 "		2

The remaining cases were 3 of chorea, 6 of paralysis, 2 of tetanus, and 3 of hysteria; in these no albumen was found.

Of the 46 cases of tuberculosis with albuminous urine, 35 died; in 19 of these there had been œdema of the lower extremities, leading to a suspicion of granular disease of the kidney, which was nevertheless found to exist in 2 cases only.

Of the 29 cases of typhus, 17 died; disease of the intestinal glands was present in all, combined in 2 cases with pneumonia; the kidneys were sound in all the cases. The albumen appeared in the urine generally from the 16th to the 25th day, while the disease was on the increase or at the height; in those which recovered, it uniformly declined and disappeared during the convalescence.

The large proportion of cases in which puerperal fever was accompanied by albuminous urine, is explained by the admixture of the urinary and lochial discharges; in 6 cases, however, which were fatal from peritonitis, and in which the kidneys were sound, the albumen continued to present itself in the urine after the disappearance of the lochia.

In 4 of the 6 cases of cancer, the albumen was evidently from the admixture of uterine discharges. The kidneys were sound in all.

In 9 of the cases of pneumonia, the albumen disappeared from the urine during convalescence. In 6 which died, the kidneys appeared sound.

Dr. Finger is disposed to conclude that in cases like the greater part of the above, where albumen appears in the urine along with a fibrinous or purulent exudation into some organ of the body, it is in consequence of these exudations being re-absorbed into the blood, and evacuated as effete matter by the kidneys. In support of this view he gives three cases where albumen appeared in the urine simultaneously with the formation of abscesses in different parts of the body; and in two of which it was observed to disappear rapidly on the abscess being opened, and the pus evacuated.

Dr. Finger speaks strongly of the necessity of caution in the diagnosis of diseased kidneys from the presence of albuminous urine, where the evidence derived from the history of the patient is from any cause not conclusive. He narrates two very interesting cases of patients admitted to the hospital, with all the usual symptoms of cerebral disorder from retained urea, in whom there was also a large quantity of albumen in the urine; and which, nevertheless, after death, presented no appearance of granular kidney. In one, there was slight puerperal peritonitis, and inflammation of the brain and its membranes, with two abscesses in the right hemisphere; in the other, there was inflammation and purulent deposition in the urinary passages, with obstruction of one ureter and impediment to the function of the corresponding kidney, which was very much distended. In both these cases the diagnosis of Bright's disease, which was the one arrived at, was unavoidable, from the absence of any history of the patients' illness, and the state of insensibility on admission.

In the two cases of epilepsy in which albuminuria was discovered, the albumen presented itself only after a convulsion, diminishing, and gradually disappearing, after the lapse of thirty-six hours. This observation is important in connexion with the cases recorded by Lever and others, of the concurrence of albuminuria with puerperal convulsions.

Prüger Vierteljahrsschrift. 1847. No. IV.

ART. 38.—Irritable Bladder from Tapeworm.—The following case is reported by Mr. TUFFNELL:—A man, of temperate habits, complained of excessive irritability of the bladder, with difficult micturition. His health had been good till three months previously, when he began to suffer from the usual symptoms of dyspepsia, with irritation of the rectum and hemorrhoids. These symptoms increased, and to them were added tenesmus and frequent calls to make water, which was voided in a twisted jet, and accompanied by severe straining, but no pain. He received temporary relief from taking opium; but he became emaciated, and his health had suffered severely before he applied for medical assistance. A small bougie when introduced was arrested, and grasped tightly by a stricture at the membranous portion of the urethra, the probable result of an attack of gonorrhoea, from which he had suffered some years before. The urine was highly acid, and loaded with lithate of ammonia. The prostate was of natural size, but very sensitive to the touch. The patient was ordered to rest in the recumbent position, to have a pint of tepid water injected up the rectum, night and morning, to relieve local irritation, and to take infusion of calumba with tincture of hyoscyamus, and liquor potassæ, the bowels at the same time to be evacuated by castor oil. Under this treatment he improved so rapidly that he resumed his usual habits at the expiration of a week. His symptoms, however, immediately recurred, and were as immediately relieved by his resuming his former treatment, with the horizontal posture. A second speedy recovery was effected; but he returned in a few days, suffering severely, and anxiously desiring an operation for his relief, being con-

vinced that he suffered from urinary calculus. The irritation about the anus had now greatly increased, and he was observed at the same time to be frequently rubbing his nose, which suggested the idea of the possible presence of worms in the intestines. A purgative of turpentine and castor oil was accordingly administered, and the following morning a tapeworm, measuring thirty feet, was evacuated. All the former symptoms immediately subsided, the urine became clear and healthy, and the patient was soon restored to permanent health.

Dublin Med. Press, Feb. 1848.

PART II.

SURGERY.

SECT. I.—SYMPTOMATOLOGY AND DIAGNOSIS OF SURGICAL DISEASES.

ART. 39.—*Constitutional Syphilis of Infants.* By MM. TROUSSEAU and LASÈGUE, of Paris.

(*Monthly Journ. of Med. Science, from the Archives Générales de Médecine.*)

THE authors consider it established that syphilis may be transmitted, either in its primary or secondary form, directly from the mother to the infant; but they hold that there is no proof of the transmission of tertiary lesions, except as a consequence of the primary or secondary forms.

They are disposed to deny the appearance of syphilis in the infant at birth, or at any period before the second week. They suppose the alleged cases of its earlier appearance to have been founded on misconceptions, either of accidental ulcerations or mucous discharges, which prove nothing with regard to the constitutional affection, or of a general cachectic aspect, which has been described with great confidence, but which MM. Trousseau and Lasègue consider as being too vague in its characters, and too uncertain in its occurrence, to form the basis of a diagnosis.

One of the earliest and most characteristic signs of the appearance of syphilis in the infant is a coryza, which begins at first with mucons secretion, followed by serous and purulent discharges, and by hæmorrhage of greater or less frequency, and terminating in caries and deformity of the nasal bones. This affection they believe to be peculiar to syphilitic infants.

Almost equally characteristic is a particular discoloration of the skin, which becomes tarnished and loses its transparency, without, however, any preternatural turgescence or shrinking. The colour is unequally diffused over the face and trunk; the greater its diffusion, the less, generally speaking, is its intensity. This tarnished hue of the skin rarely lasts more than a week.

Next in importance and succession are the eruptions. On this point the authors remark, that it is impossible to found a valid diagnosis upon an eruption taken apart from all other symptoms; but that the concurrence of an eruption with other and less variable signs is sufficient to place the conclusion upon a firmer basis. The different characters supposed to indicate a syphilitic eruption are then discussed, and it is shown that neither the copper-coloured stains, nor the dark hue of the crusts, nor the circular disposition of the eruption, can at all be relied on in the diagnosis of infantile syphilis.

The above are the earliest and most characteristic symptoms; in the subsequent progress of the disease the infant becomes cachectic; accidental wounds assume an unhealthy aspect, and heal with difficulty; the umbilical cicatrix is apt to remain open, and to become fungous. Sometimes, though by no means constantly, there is gradual emaciation; the violence of the internal disorder bearing no proportion to the intensity of the external signs. The infant does not take the breast readily; sleep is short and interrupted; it cries frequently, and without appreciable motive; and, concurrently with these symptoms, diarrhœa is established,

which it is exceedingly difficult to subdue. The mouth and anus, where the mucous membrane joins the skin, are cracked and fissured, and the discharges by stool are often bloody. Under these circumstances the infant, impoverished and weakened in constitution, falls a victim either to the chronic disorder, to the reigning epidemic, or to some accidental acute disease. The fatal sinking is in general extremely rapid, and not preceded by the usual warning circumstances, and the inspection of the body does not explain the rapidity of the fatal termination. The most constant lesion is serous effusion into all cavities.

ART. 40.—*Excerpta from "A Treatise on Fractures in the Vicinity of Joints," &c.*

By Dr. R. W. SMITH, Dublin.

- I. *Fractures of the neck of the femur.*—*Conclusions on their diagnosis and pathology.*—1. A slight degree of shortening, removable by a moderate extension of the limb, indicates a fracture *within* the capsule.
2. The amount of *immediate* shortening, when the fracture is within the capsule, varies from a quarter of an inch to one inch.
3. The degree of shortening, when the fracture is within the capsule, varies chiefly according to the extent of laceration of the cervical ligament.
4. It also varies according as the fracture is impacted or otherwise.
5. In some cases of intracapsular fractures, the injury is not immediately followed by shortening of the limb.
6. This is generally to be ascribed to the integrity of the cervical ligament.
7. In such cases, shortening may occur suddenly, at a period more or less remote from the receipt of the injury.
8. This sudden shortening of the limb is, in general, to be ascribed to the accidental laceration of the cervical ligament, previously entire, and is indicative of a fracture *within* the capsule.
9. The deposition of callus around the fragments is not necessary for the union of the intracapsular fracture.
10. When osseous consolidation occurs in the intracapsular fracture, it is effected by the direct union of the broken surfaces, which are confronted to each other.
11. The osseous union of the intracapsular fracture is most likely to occur when the fracture is of the variety termed "impacted."
12. In the intracapsular fracture the mode of impaction is different from that which obtains in the extracapsular.
13. The degree of shortening, when the fracture is external to the capsule, and does not remain impacted, varies from one inch to two inches and a half.
14. When a great degree of shortening occurs immediately after the receipt of the injury, we usually find a comminuted fracture external to the capsule.
15. The extracapsular fracture is accompanied by fracture with displacement of one or both trochanters.
16. The extracapsular *impacted* fracture is accompanied by fracture without displacement of one or both trochanters.
17. In such cases, the fracture of the trochanters unites more readily than that of the neck of the bone.
18. The degree of shortening, in the extracapsular impacted fracture, varies from a quarter of an inch to an inch and a half.
19. The exuberant growths of bone met with in these cases have been erroneously considered to be merely for the purpose of supporting the acetabulum and the neck of the femur.
20. The final cause of their formation is the union of the fracture through the posterior intertrochanteric space.
21. The difficulty of producing crepitus, and of restoring the limb to its normal length are the chief diagnostic signs of the impacted fracture.
22. The position of the foot is influenced principally by the obliquity of the fracture, and the relative position of the fragments.
23. Inversion of the foot may occur in any of the varieties of fracture of the neck of the femur.
24. When the foot is inverted, we usually find that either a portion or the entire of the extremity of the lower is placed in front of the superior fragment.

25. In cases of comminuted extracapsular fractures, with fracture and displacement of the trochanters, the foot will generally remain in whatever position it has been accidentally placed; it may be turned either inwards or outwards, or there may be inversion at one time, and eversion at another.

26. Severe contusion of the hip-joint, causing paralysis of the muscles, which surround the articulation, is liable to be confounded with fracture of the neck of the femur.

27. Severe contusion of the hip-joint may be followed, at a remote period, by shortening of the limb, and eversion of the foot.

28. The presence of chronic rheumatic arthritis may not only lead us to suppose that a fracture exists when the bone is entire, but also, when there is no doubt as to the existence of fracture, may render the diagnosis difficult, as to the seat of the injury with respect to the capsule.

29. Severe contusion of the hip-joint, previously the seat of chronic rheumatic arthritis, and the impacted fracture of the neck of the femur, are the two cases most likely to be confounded with each other.

30. Each particular symptom of fracture of the neck of the femur, separately considered, must be looked upon as equivocal. The union of all can alone lead to the formation of a correct opinion as to the nature and seat of the injury. (P. 110.)

II. *Fractures of the bones of the forearm, in the vicinity of the wrist-joint.—Corollaries.*

—1. Fracture of the lower extremity of the radius, close to the wrist-joint, with displacement of the lower fragment backwards, may, with propriety, be termed "Colles's Fracture."

2. Colles's fracture may be the result of a fall either upon the palmar or dorsal surface of the hand.

3. In Colles's fracture the carpus does not project towards the palmar surface of the limb, as has been stated by Sir Astley Cooper.

4. In this injury the head of the ulna projects at the inner border of the carpus, in consequence of the hand being carried in the opposite direction, "*par une mouvement de totalité*."

5. In consequence of this displacement outwards of the hand, the internal lateral ligament of the wrist-joint is stretched, and severe pain is felt below the head of the ulna.

6. The distortion which characterizes Colles's fracture is the result of the combined action of the supinator longus, the extensors of the thumb, and the radial extensors of the carpus.

7. The presence of this deformity presupposes the integrity of the lower extremity of the ulna, and of the inferior radio-ulnar connexions.

8. In this injury there is scarcely any diminution in the transverse diameter of the forearm, the cylindrical form which the limb acquires being owing, partly, to effusions among the flexor tendons, but principally to the increase in the antero-posterior diameter of the forearm at the seat of the fracture, consequent upon the displacement backwards of the lower fragment.

9. In Colles's fracture the radius is usually broken from half to three quarters of an inch above its carpal surface.

10. In Colles's fracture the radius is generally broken transversely, with respect to the antero-posterior diameter of the bone; but the fracture may be oblique from above downwards and inwards, or downwards and outwards.

11. The external deformity would lead us to suppose that the radius had been broken very obliquely, even in those cases in which the fracture is accurately transverse, with respect to both diameters of the bone.

12. This apparent obliquity is owing to the threefold displacement which the inferior fragment undergoes, in consequence of which the aspect of its articulating surface becomes directed upwards, backwards, and outwards.

13. The opinion of Diday, that there is in this fracture an overlapping of the fragments, does not appear to be correct. Such an event has not been demonstrated in recent specimens of the injury, and in old cases the appearances are deceptive; but even in the latter, when the bone is divided from before backwards, the fracture is usually found to have been transverse. In such cases overlapping

could not happen, and the possibility of its occurrence is difficult to be conceived, even in oblique fractures, as long as the ulna and the radio-ulnar ligaments remain uninjured.

14. In Colles's fracture the posterior surface of the limb is shortened; but the anterior *may* be increased in length, in consequence of the divarication of the fragments in front.

15. The amount of this increase will depend upon the amount of displacement, upwards and backwards, of the carpal surface of the lower fragment.

16. To account for the shortening of the posterior surface of the bone, it is not necessary to suppose that there exists overlapping of the fragments. The shortening is to be ascribed to the alteration in the aspect of the carpal surface of the bone.

17. In Colles's fracture the pronator quadratus acts principally upon the lower extremity of the superior fragment.

18. The theory of Voilhmier, which supposes that the superior is driven into the inferior fragment, appears to me to be liable to the following objections:—

a. The distance between the line of compact tissue and the posterior wall of the lower fragment is not the measure of the amount of displacement backwards of that fragment.

b. This interspace is considerable, even in those cases in which the fragments are found to be upon the same plane in front.

c. Were the theory correct, the amount of shortening of the posterior surface of the bone should be much greater than it ever is in cases of Colles's fracture.

d. There is no correspondence between the length of the line of compact tissue and the amount of shortening of the back of the radius.

e. The possibility of either fragment being driven into the other is difficult to be conceived, as long as the ulna remains entire, and the ligaments which connect it to the radius uninjured.

f. The appearances disclosed by the examination of recent specimens are opposed to the doctrine of Voilhmier.

g. Were it possible to separate the united fragments, and draw down the inferior so far as to extricate it from the apparent impaction, we should not succeed thereby in restoring in normal form the lower end of the radius.

19. The compact structure of the shaft of the radius appears to have penetrated the lower fragment, in consequence of its having become encased in osseous matter, deposited for the union of the fracture.

20. The extent of this deposit regulates the length of the line of compact tissue, which appears to have been impacted.

21. In the treatment of Colles's fracture the object most difficult to be accomplished is to restore to the carpal surface of the radius its natural direction *forwards*, and thus render the posterior surface of the bone longer than the anterior, as it is in the natural state.

22. The upper and lower fragments of the radius should be pressed in opposite directions, the former backwards, and the latter forwards; but the principal amount of pressure should be exerted upon the inferior fragments.

23. The use of a curved splint, which preserves the hand in a moderate state of adduction, supersedes the necessity of employing the ulnar splint of Dupuytren.

24. The object proposed to be attained by keeping the hand in this position is to restore to the carpal surface of the radius its normal direction inwards.

25. Fracture of the lower extremity of the radius, with displacement of the lower fragment forwards, is generally the result of a fall upon the back of the hand.

26. This injury is liable to be mistaken for dislocation of the carpus forwards.

27. The principal diagnostic signs of the nature of the accident are the facility with which the deformity can be removed and crepitus produced, and the obliquity of the outline of the dorsal tumour, its external portion (or that constituted by the extremity of the superior fragment of the radius) being placed higher up than its internal portion, which is formed by the head of the ulna.

28. Fracture through the lower extremities of the radius and ulna is very liable to be mistaken for dislocation of the carpus backwards.

29. The chief diagnostic signs of the fracture are the following:—

a. The styloid processes of the radius and ulna maintain their normal relations to the carpus, and move with the hand.

b. The distance between the margin of the dorsal tumour and the ends of the fingers is greater than that between the upper edge of the carpus and the extremities of the fingers of the uninjured limb.

c. A very moderate degree of extension is sufficient to restore the fragments to their proper relative position; but when the extending power is removed, the original deformity is exceedingly liable to recur.

d. When the deformity has been reduced by extension and counter-extension, the carpus can be readily moved backwards and forwards, and during these motions a crepitus is distinctly felt. (P. 171.)

III. *Fractures of the humerus in the vicinity of the shoulder-joint.*—1. The most valuable diagnostic signs of fracture detaching the greater tubercle of the humerus are an increase in the breadth of the shoulder, and a vertical sulcus, corresponding to the upper part of the bicipital groove.

2. When there is much displacement of the tubercle, in consequence of the rupture of the fibrinous and tendinous structures which invest it, ligamentous union is more likely to be the result than osseous.

3. Independent of fracture through the greater or lesser tuberosity, the upper extremity of the humerus is liable to be broken in three situations, viz., through the surgical neck, through the line of the epiphysis, and through the anatomical neck, or narrow line, which separates the head of the bone from the tubercles.

4. There are two varieties of the impacted fracture of the upper end of the humerus; one situated external to, and the other within, the capsular ligament. The former may pass either through the tubercles, or through the line which, in the young subject, marks the junction of the epiphysis with the shaft: the latter traverses the anatomical neck of the bone.

5. In the former, it is generally the inferior fragment which penetrates the superior, while, in the latter, the head of the bone is driven into the lower fragment.

6. In the former, crepitus is not elicited without the application of considerable force; in the latter, it can be produced with comparative facility.

7. The intracapsular impacted fracture is generally accompanied by a fracture of one or other, or of both tubercles, and is so far analogous to the extracapsular impacted fracture of the neck of the femur, with fracture of one or other, or of both trochanters.

8. Each variety is capable of uniting by bone.

9. In the intracapsular variety, the circumstance of the fracture being accompanied by impaction, materially increases the probability of the occurrence of osseous consolidation.

10. When osseous union occurs in this variety of fracture, the process of reparation is accomplished by the lower fragment principally.

11. In the intracapsular fracture, without impaction, the head of the humerus may perish for want of nutrition.

12. In such cases, disorganization of the joint may ensue, as the result of the processes, by which the elimination of the dead bone is accomplished.

13. In the intracapsular fracture, the head of the bone may become reversed in the articulation, and its cartilaginous surface be brought into contact with the broken surface of the lower fragment.

14. When this happens, the cartilage unites very imperfectly with the cancellated tissue of the inferior fragment.

15. In the intracapsular impacted fracture, the deformity is greater than in the extracapsular.

16. The diagnosis of extracapsular impacted fracture is most difficult. The evidence of its existence is chiefly of a negative character.

17. The most important diagnostic signs of the intracapsular impacted fracture are, shortening of the limb, approximation of the upper end of the shaft or tubercles to the acromion process, flattening of the shoulder, crepitus, and an impossibility of feeling the entire of the globular head of the bone.

18. Each variety of the impacted fracture unites with deformity.

19. In the intracapsular impacted fracture, the removal of the deformity would diminish the probability of the occurrence of osseous consolidation.

20. The chief diagnostic signs of the separation of the superior epiphysis of the humerus are, an abrupt projection beneath the coracoid process, caused by the upper end of the lower fragment, and the immediate recurrence of the deformity when the means employed for its reduction cease to be in operation.

21. There is no fracture incidental to the upper end of the humerus, in which it is more difficult to maintain the fragments in their proper relative position.

22. The supposition that, in this injury, the tubercles form a portion of the lower fragment, involves an anatomical error, the line of junction of the epiphysis with the shaft being below these processes (p. 206).

IV. *Fracture of the acromial extremity of the clavicle.*—1. When the clavicle is broken between the coraco-clavicular ligaments, there is seldom any displacement of either fragment, and always much less than in fracture of any other portion of the bone.

2. When displacement does occur, it is usually limited to a slight alteration in the direction of the bone, by which the natural convexity of this portion of the clavicle is increased.

3. In cases of fracture between the trapezoid ligament and the acromio-clavicular articulation, the displacement of the outer fragment is, in general, considerable, its inner extremity being drawn upwards.

4. This displacement is frequently carried to such an extent, that the fragments form a right angle with each other; and it is principally due to the action of the clavicular portion of the trapezius muscle.

5. The entire of the outer fragment is also generally drawn forwards and inwards, sometimes to such a degree as to bring the broken surface of the external into contact with the anterior margin of the internal fragment. The reticular structure of the former unites, in these cases, with the compact tissue of the latter.

6. The displacement of the outer fragment forwards and inwards, is owing to the revolution of the scapula upon its axis, and to the action of the muscles passing from the chest to the arm.

7. The derangement, as regards the thickness of the bone, is very slight, so that there can scarcely ever be any overlapping of the fragments.

8. In consequence of the displacement, as regards the direction of the bone, the clavicle is shortened in this injury.

9. In cases of fracture external to the conoid ligament, osseous matter is freely formed upon the under surface of either.

10. These osseous growths, occupying the situation of the coraco-clavicular ligaments, frequently assume a determinate form, and constitute a prop or buttress, which rests upon the root of the coracoid process. It is usually convex posteriorly, concave in front, and slightly notched inferiorly; in some cases it reaches down to the notch of the scapula.

11. In some rare instances, these osseous formations unite with the coracoid process, and ankylosis is thus established between the scapula and the clavicle.

12. In cases of fracture external to the trapezoid ligament, the amount of external deformity is seldom proportionate to the extent of the displacement of the outer fragment of the bone. (P. 222.) Vide the *Report on Surgery*, in the present Volume.

ART. 41.—*Differential Diagnosis between Congenital Dislocation of the Lower Maxilla. Accidental Dislocation of the same, and Chronic Rheumatism.*

By Dr. R.W. SMITH, Dublin.

(Liber citatus, p. 292.)

1. In the congenital luxation, the mouth can be freely opened and closed; in chronic rheumatism these motions can be performed, but not without uneasiness to the patient, an uneasiness which sometimes amounts to severe pain; in luxation from accident, the mouth cannot be closed.

2. An involuntary flow of saliva accompanies the accidental luxation alone,

although in some cases of chronic rheumatism there is an increased secretion of that fluid.

3. In congenital luxation, the teeth of the upper jaw project beyond those of the lower; the reverse is observed in accidental luxation, and in chronic rheumatism.

4. In congenital luxation there is no fulness in the cheek, such as the coronoid process produces in cases of accidental luxation, and the enlarged condyle in some instances of chronic rheumatic arthritis.

ART. 42.—*The Diagnostic Characters of Urethral Discharges simulating Gonorrhœa, and occurring accidentally in cases of Spermatorrhœa.* By H. J. M'DUGALL.

(Preface to his Translation of Lallemand's Treatise on Spermatorrhœa.)

The symptoms are often almost as severe as those of virulent clap, and the discharge is attended with great irritation in the neighbourhood of the prostate, and frequent desire of micturition. It came on in one case of a married man, after taking a single tumbler of whisky-and-water at night—this gentleman not having been in the habit of taking spirits for several years, on account of continued ill health. The discharge is thicker than that of ordinary clap, and sticks in patches on the linen. These may be sealed off, after which there is little mark left, and the discharge seldom penetrates through calico, so that on the opposite side of the shirt there is little or no appearance of stain. On wetting the linen the discharge feels slippery, and it is washed off with difficulty. I am inclined to believe that these discharges are not contagious; but sexual intercourse should be avoided, on account of the injury that may result to the patient himself. In most cases, indeed, connexion is impossible during the first stages, on account of the painful chordee to which excitement gives rise. I have generally found that such discharges were connected, more or less, with deficiency of generative power. In the case I have above alluded to, impotence was almost complete; and in another, occurring in the person of a married surgeon, the powers had greatly declined. Both these patients were in the prime of life, and both had in their youth led very irregular lives.

The irritation, I am inclined to believe, is situated in the posterior part of the urethra. Indeed the surgeon I have just alluded to believed himself affected by enlarged prostate—many of the symptoms of which generally accompany the discharge I have described, especially frequent desire to pass water, and a feeling as though the bladder were never completely emptied, or as if two or three drops of urine were retained in the posterior part of the urethra.

In the treatment of these cases I have found the application of the solid nitrate of silver most effectual. The condition of the mucous membrane is immediately modified by it, and within twelve hours the patient experiences a degree of comfort to which, very frequently, he had long been a stranger.

This peculiar form of urethral discharge has hitherto, for the most part, I believe, been confounded with contagious clap; indeed, many members of our profession are in the habit of setting down all discharges from the urethra, indiscriminately, as the result of impure connexion, however positive the patient may be that such has not taken place. In all the cases I have hitherto met with, however, the patients have admitted that they had been previously affected with contagious clap—frequently on more than one occasion. The discharges I have described are, I am inclined to believe, by no means uncommon, and are certainly deserving the careful attention of the profession.

SEC. II.—THE NATURE AND CAUSES OF SURGICAL DISEASES.

ART. 43.—*Acute Myringitis, or Inflammation of the Membrana Tympani.*
By W. R. WILDE, Esq., Surgeon to St. Mark's Hospital, Dublin.

(The Dublin Quarterly Journal, Nov. 1847, p. 357, condensed.)

The physical signs consist, in the severe cases, of heat, pain, and slight

erysipelatous redness of the auricle. In very aggravated cases, heat, fulness, and cedema, as well as pain over the mastoid region. In ordinary cases, slight tumefaction of the lining of the external meatus, complete cessation of the ceruminous secretion, a bright pinkish colour, and a swelling and polish of the membrane lining the auditory canal, which is streaked with long tortuous vessels; accompanied by heat and itching of that part.

The membrana tympani first loses its polish, then its semi-transparency; becomes in the early stages, and in very mild cases, of a dull yellow, but this is variable, and seldom seen. The most usual colour varies through all the shades of red, from a slight pinkish hue to that of a dark damask rose tint, and is caused by the different degrees of vascularity produced by the greater or less intensity of the inflammation. Soemmering has faithfully represented the arteries of the tympanal membrane, in the normal condition, as two long vessels proceeding from above downwards and backwards, along the course of the handle of the hammer, and branching on either side into the anterior and posterior vibrating, thin portions of the membrane. During inflammatory action, however, like as in the coats of the eye, new vessels seem to start into existence, and to branch and anastomose till the whole seems one mass of bright or livid red. Generally speaking, the upper portion round the attachment of the head of the hammer is the first to become vascular, the last to regain the natural hue, and the part in which the colour becomes the deepest. The vessels along the handle of the hammer are always well marked, though the line of attachment of that bone remains for a long time whitish, owing to the intimate connexion of the membrane to it at this part. Around the circumference of the membrane, within the ligamentous ring, particularly at its lower and anterior part, an areola of short vessels forms a circle of almost a line in breadth. They all run towards the centre, and, when well marked, look like the zone seen in iritis, or, which is perhaps a better simile, the zone observed in the cornea in the commencement of cornitis, to which disease the appearances seen in myringitis bear a great resemblance. It is only in the early stages, or when the redness is disappearing, that this peculiar peripheral vascularity is well-marked. With this general redness may, in some cases, be seen well-defined patches of ecchymosis, generally on the anterior vibrating portion; and as the vascularity increases, even the exact position of the membrane cannot be recognised; all is one red mass. The membrane also becomes swollen, and its surface apparently villous; rarely vesicles, and still more rarely pustules and small abscesses, form on its surface. Ulcers occasionally form upon it. These usually occupy the anterior part of the lower vibrating portion; but I have occasionally seen them situated posteriorly. It is possible that they may have commenced as vesicles or pustules, but we require more extended and minute observations to determine this point. Exudation of muco-purulent secretion, with the detachment of the cuticle, both from the surface of the membrane and the parietes of the canal; perforation of the tympanal membrane, either by rupture, abscess, slough, or ulceration, but which it is not always easy to determine, also occur occasionally. The rupture usually takes place in the anterior portion, and close to the opening of the Eustachian tube; sometimes it may be seen as a round or oval hole, about the size of No. 8 shot, and appearing as if punched out of the membrane. In other instances, the rupture takes place at the inferior edge of the membrane; in which case the lower margin of the aperture is formed by the parietes of the canal and cavity of the tympanum. In still rarer instances, the rupture takes place in the posterior division of the membrane, below, and somewhat behind, the point or handle of the malleus.

Besides the peculiar vascular condition of the membrane already referred to, lymph is very frequently effused between the laminae, in the substance of its proper fibrous tunic; and there can be little doubt that, in the severe forms of the disease, this morbid product is poured out in large quantity upon the surface of the tympanum, the membrane of which must partake largely of the inflammatory action so visible in the external septum. That these lymph exudations, both by thickening the tympanal membrane itself, and by acting in a similar manner upon the lining of the cavity of the tympanum and the parts contained within it, by bands of adhesion within its walls, thus drawing inward and arresting the vibrations of the membrana tympani, curtailing the motions of the ossicula, injuriously

affecting the membranes of the fenestra, and particularly by impairing the functions of those tympanic branches of the glosso-pharyngeal nerves which ramify on the mucous membrane,—are the principal causes of deafness, I have little doubt.

When rupture takes place, and accumulations of blood, mucus, or purulent matter pent up within the tympanum are evacuated, relief is generally experienced.

In cases where neither rupture nor ulceration has taken place, as the disease advances, the vascularity of the tympanic membrane decreases, first, in the centre of its vibrating portion, then around its circumference, and, finally, along the malleolar attachment. The membrane assumes a muddy, yellowish, opaque colour; after this clears off, we find it opaque throughout, or in spots; sometimes these opacities can be plainly discovered upon the interior of the membrane, like the speckled opacities seen upon the membrane of the aqueous humour. In other cases, the result of inflammation is seen in the uniform grayish-white opacity, similar to leucoma of the cornea; and in time, as the superficial polish is restored, the membrane presents a pearly aspect, very different from the semi-transparent character of the healthy condition.

A not uncommon effect of inflammation of the tympanum and its membrane, particularly when allowed to run its course unchecked, is a drawing inward of the membrana tympani. In such cases the handle of the hammer forms the most projecting point seen at the bottom of the auditory canal; and the anterior and posterior divisions of the membrane can be distinctly seen forming deeply curved folds upon either side of it. At times the membrane can be elevated to its natural position by inflating the drum through the Eustachian tube; but in such cases, as soon as the pressure from within is removed, it immediately resumes its former position. Considerable discussion has occurred among authors as to the possibility of collapse, or falling inward, of the tympanic membrane, occurring from shocks or loud noises, &c. This is not the place for investigating that question; but of the existence of the pathological condition which I have thus described, and of its being sometimes the consequence of inflammatory action, I have no manner of doubt. It is a peculiarity I demonstrate to the class at the hospital daily. Mr. Toynbee's dissections confirm my observations on this point, and, in some instances, explain the cause, namely, adhesive bands, existing between the back of the membrane and the inner wall of the tympanum. [*These dissections are referred to in our Report on Surgery, Vol. V., p. 263.—H. A.*]

ART. 44.—*Chronic Myringitis.* By W. R. WILDE, Esq.

(*The Dublin Quarterly Journal*, Feb. 1848, p. 92; condensed.)

This disease presents under two forms: the first a perfectly painless deafness; the other attended by paroxysms of violent pain, coming on at intervals, between which the patient is perfectly free from all uneasiness. The latter is much more common among females from fifteen to thirty, and is at times accompanied by irregularities of the uterine functions. The appearance of the membrana tympani is too peculiar to be mistaken. It presents a general thickening and opacity, particularly of its lower portion; besides which, there is almost invariably a number of spots, about the size of pin-heads, of greater density than the rest, and of a pearly lustre, studded over the surface of the membrane. In many cases it presents the appearance of crumpled parchment. During the quiescent periods, we only remark a few straggling vessels, carrying red blood, spreading over the surface of the membrane, and for the most part, coursing from above downwards, parallel with the handle of the hammer. Upon any provocation, however, such as cold, or other exciting causes, the membrane will in a few hours, and often without any increase of pain, become of a uniform dark-red colour, precisely like *pannus* of the cornea—a disease of which it is the manifest analogue. The greater the amount of thickening and opacity, the less will be the quantity of vascularity and redness which the membrane is capable of assuming, as we perceive in cases of dense opacity of the cornea; owing no doubt, to the greater quantity of deposit obstructing the flow of red blood, by diminishing, and perhaps also obliterating, the calibre of the vessels.

Cases of this kind are often of many years' standing, and many have, I am con-

vinced, been treated as instances of "nervous deafness." . . . The membrana tympani will be found thickened, opaque, and slightly vascular, and sometimes very much collapsed, or drawn inwards towards the tympanum, so that the handle of the hammer forms a manifest projection. . . . It is acknowledged that several attacks of *earache* were suffered several years previously, and that such attacks were often preceded or accompanied by symptoms of catarrh.

[After describing a very interesting illustrative case, Mr. Wilde remarks:—

Our art at present does not offer much hope. The whole train of symptoms are evidently the result of slow chronic inflammation, affecting, in all probability, the lining of the cavity, as well as the membrane of the drum. The only means which can with safety be recommended at this period is the application of a solution of lunar caustic, applied with a camel's hair brush, every third or fourth day, upon the surface of the opaque membrane, while it is fully exposed to view; and should there be much vascularity present, the application of a few leeches, as far as is possible around the meatus, at least twice a week. In a few cases the *arnica* will assist to remove the tinnitus; but it is not so efficacious in this as in more recent forms of the affection.

ART. 45.—*Observations respecting the Origin and Growth of certain Concretions occurring in the Prostate Gland.* By C. HANDFIELD JONES, M. B., Cantab., Lecturer on Physiology at St. George's Hospital Medical School.

(*London Medical Gazette*, Aug. 20, 1847.)

The prostate gland is usually described as corresponding in structure to that class of conglomerate glands of which the salivary may be regarded as the type. In the salivary glands, the epithelium which fills their terminal vesicles is bulky, and of very fragile texture, often appearing to consist merely of aggregations of granular matter round nuclei. It differs entirely from that which lines the buccal cavity, which is well known as a perfect specimen of the scaly kind. Now, in the prostate cavities this distinction is not nearly so strongly marked; the whitish fluid, which flows, when the gland is compressed, into the prostatic sinus of the urethra, consists, in great part, of epithelial prisms, exactly the same as those of the adjacent portion of the urethra; and in the terminal cavities of the gland, so far as I can determine, the epithelium is still rather allied to the columnar form, than to the spheroidal or truly glandular; sometimes it even approaches closely to the scaly variety, the columns being very short, and the cells imperfectly developed. Moreover, in the great majority of instances, it is distinctly seen to line the cavities, and not to fill or occupy them completely, as that of the salivary vesicles does.

Another point of difference appears in the mode in which the terminal cavities of the prostate are disposed—not closely grouped together in lobules, as is the case in the salivary glands, but each for the most part invested; and separated from the adjacent ones by a quantity of connecting tissue. This intermediate tissue is disposed in fasciculi, which are closely woven together, and include spaces which are occupied by the glandular structure. It consists, principally, of the white fibrous element, but also contains numerous bands resembling closely those of organic muscle. In the enlarged prostate of old age, this tissue seems especially increased. Again, it may be observed, that in the salivary glands the efferent ducts are narrow, and bear but a small proportionate size to the groups of secreting vesicles which cluster round them on every side. In the prostate the terminal cavities are *smaller* than the efferent passages, and there is, as before stated, no marked distinction between them. These considerations furnish some grounds for regarding the prostate as rather an assemblage of mucous follicles than really a distinct conglomerate gland. Its part in the generative function is probably not to prepare any essential element of the fecundating fluid, but merely an appropriate viscid material; involved in which the seminal animalcules may be more securely transported on their destined route. I now proceed to describe certain remarkable formations which occur, I believe, solely in this gland.

In the cavities of the prostate there are frequently to be observed a number of minute concretions, having much the appearance, as M. Cruveilhier remarks, of brownish grains of sand. These are easily visible to the unaided eye; but micro-

scopic examination reveals some interesting circumstances relative to their origin and growth, as well as the fact, which would scarcely otherwise have been suspected, that they are almost of constant occurrence; not so often, perhaps, of the brownish-red tinge which makes them conspicuous amid the whitish glandular structure, but more nearly pale and colourless, yet having, in other respects, an exactly similar appearance.

In their earliest condition, these concretions appear in the form of a simple vesicle, having a single clearly-defined wall of homogeneous membrane, the cavity is either transparent, or occupied by a colourless, finely-mottled substance, and in the centre there is seen, sometimes, a nuclear corpuscle. The size of these varies. I have seen them as large as $\frac{1}{16}$ in. diameter, but the majority are not much above $\frac{1}{64}$ in., and many are still smaller. Their form is usually oval or subcircular. In the next stage of their development the original dark envelope is still to be seen, while the contained amorphous matter is beginning to be arranged in concentric layers, as indicated by delicate curved lines, which run parallel to the envelope, and are most apparent near to it. As their growth proceeds, they usually attain a larger size, the interior concentric layers become more strongly marked, so as to be scarcely distinguishable, if at all, from the original envelope; their form, also, is frequently altered—in some instances, probably, from mutual pressure, so as to be very exactly triangular or quadrilateral. The central cavity still remains, and generally corresponds pretty accurately to the exterior contour. It contains often a yellowish or reddish-coloured granular material, which is sometimes perfectly opaque. This is not always deposited only in the central cavity, but more or less between the concentric layers, which are sometimes separated by it into two or more series. The size of the concretions, when they have attained to what may be considered their mature state, varies considerably; some are quite visible to the naked eye. The majority, however, probably average from $\frac{1}{16}$ to $\frac{1}{32}$ in. diameter. Many varieties may be perceived among them. The concentric layers may be more or less numerous nearer to the periphery or to the central cavity. They are not unfrequently replaced by radiating striæ, which run for a varying extent outward, and are crossed by one or more concentric rings; the appearance of some of these is extremely beautiful. Sometimes a tolerably large vesicle is seen to contain two smaller ones in its interior, both of which present the concentric laminated arrangement. It is not easy to determine positively whether the stages of growth which have been described as taking place in these structures are affected by the continual apposition of fresh matter to the outer wall, or by the dilatation of the vesicle, and successive deposits taking place in its interior: both methods are probably employed in various cases. The larger concretions, I think, receive increments of matter on their exterior, while the smaller seem clearly to increase in the endogenous manner, since the vesicles often attain a large size before the laminated deposit appears, the first faint traces of which may occasionally be seen in process of formation from the granular contents of the vesicle.

When the vesicles have attained their full development, they appear to undergo a kind of degeneration, or more properly, perhaps, to tend to dissolution. They lose their definite contour, become more or less shapeless and irregular; the concentric layers also become less distinct, and the granular contents either totally decolorized, or so much darkened in tint as to appear almost black. Many of the larger ones are seen to undergo disintegration by the formation of fissures, which run from the periphery towards the centre, and gradually break up the concretions into smaller fragments. Concretions in all these different states, from their first commencement to their final decay, may be frequently observed in the same gland. The situation which these structures occupy may be easily ascertained, if a thin section taken from the interior of the gland be examined by transmitted light. They are then seen lying in the follicular cavities, either in groups containing numerous small concretions, or as single ones, which are usually of large size. Such a view also frequently exhibits multitudes of concretions, colourless or semi-transparent, scattered throughout the granular tissue, which, to the naked eye, had presented no appearance that could have led to the supposition of their existence. Though I have described the course of development of the original simple vesicles until they attain what appears to be their mature or most perfect state, yet I am by no means satisfied that they are normally destined to pass into

such a condition. I think it is very probable that many of them undergo dissolution early, yielding up their granular or amorphous contents to form part of the secretion of the gland; and I am confirmed in this idea by having observed the simple vesicles to be more numerous and constant in their occurrence than those which exhibit the concentric laminated arrangement.

The chemical composition of these concretions must doubtless vary in the different stages of their development. At first they can scarcely consist of anything else than animal matter; subsequently, however, they acquire calcareous salts, and especially when they lose their definite form, and degenerate into an amorphous mass, their earthy constituents no doubt predominate. These are stated by Dr. Prout to be phosphate, with a little carbonate of lime. What is the nature of the colouring matter I am unable to state. Its presence is evidently not essential; it is unaffected by ether, liquor potassæ, or strong hyd. chl. acid; its tinge is deepest in those concretions which appear to be of long standing, and to remain permanently in the cavities of the gland.

I have not examined a sufficient number of cases to enable me to offer an opinion as to the causes influencing the production of these formations; only it has appeared to me that they are found so constantly, and in such numbers, in glands which bear no mark of being diseased, that I am rather inclined to regard them, while in a moderately developed state, as normal structures, contributing, perhaps, some element to the natural secretion of the gland. When, however, they grow immoderately, and assume a permanent existence, they then must, doubtless, be regarded as diseased products.

One remark, in conclusion, is suggested by the history of these curious formations, viz., that they appear to occupy an intermediate position between organic growths and inorganic concretions. To the former class they belong, by having their origin in a vesicle or cell, and by their growth taking place chiefly in the endogenous manner, by successive interior accretions. To the second they approximate by the triangular or quadrilateral shape which they often assume, their tendency to become infiltrated with earthy matters, and to pass into the state of a dead amorphous mass.

ART. 46.—*The Surgical Relations of Associated Muscular Motion.*

By J. P. VINCENT, Esq.

(*Excerpta from "Observations on some of the Parts of Surgical Practice."*)

1. In the combination of the moving parts of the machine, the variations that may take place in the least part will vary the whole. The change in the movement of a finger has really and strictly an influence upon the whole body. (p. 3.)

2. To preserve unity of purpose amidst a complexity of means, there must be a centre of motion, about which all the different systems are to move. The centre of motion is the centre of gravity. In man the centre of gravity is a moveable point, limited in the variation of its position between the pubis and sacrum. (p. 4.)

3. As almost all muscular actions are performed in reference to a centre, so, when this centre is lost to muscles as a bond of union of consentaneity, they, if they can find a new centre readily, go into a new combination of action, as conformably as can be with this new centre. This ability to adopt states of transition is, of course, the ability to be educated. (p. 5.)

4. All muscles are, for the most part, exercised in the *forward* movements of the body, and as very few people have much use of the muscles that act in a sideways motion, so when any one muscle is used in this forward motion, there are, by reason of the association of actions, many others called into action, to the injury, probably, of the case. When a patient is placed on his side, owing to the disuse of the muscles calculated for this kind of movement, the whole system of muscular action is more likely to be in repose, and has less chance of being excited by the laws of association. (p. 10.)

5. The relaxation of muscles is to be effected by attending to their position when they are required to throw out their strongest exertions; and not, as usually is supposed, by approximating their attachments. In dislocation of the foot backwards, the gastrocnemius has its lever of action increased in power as the foot

lies extended, by the heel projecting so much behind, which advantage, joined to that of its *habitual exertion when in this direction*, forms a very great opposition to the foot being brought to a flexed position; the surgeon will sensibly feel the cessation of its action the moment it is brought to a right angle with the axis of the tibia. This is owing to its being then in a state of least action in the usual exercise of its powers. (p. 11.)

6. The overpowering strength which a muscle is brought to exert, when its usual direction of action about a centre is forcibly changed, is another law of conditions of the utmost consequence to the surgeon. The dislocation of the patella on its edge is an example; the bone sets the extensors of the leg into action of the most violent kind. These muscles act most powerfully when the limb is to be straightened, and in the condition in question they act with a power which defies all the force that human aid can call to its service. Their force is also partly the effect of that irritation which all muscles get when they are thrown out of their ordinary line of action, particularly when they are disturbed in moving round their ordinary centre of motion. We have only to flex the leg a little, and all this powerful opposition to restoring the patella ceases upon using the slightest rotatory motion. (p. 13.)

7. The associated action of muscles is exhibited in *cramp*. If it occur in one muscle, as in the exterior of a joint, and the flexor of the same joint be put into strong action, the cramp ceases immediately. If the extensor pollicis proprius of the foot be the muscle affected, it is only to put into action, strongly, the flexor pollicis longus, by pressing the toe against some substance, when all cramp at once ceases. These two muscles are associated by reciprocity of action; and as the one motion is strongly called forth, the other gives way to the minimum of action. (p. 5.)

ART. 47.—*Origin of the Venereal Disease.* By M. RICORD.

(*The Lancet*, Oct. 23, 1847, p. 443.)

A question which has often been debated, and which is by no means solved, is the inquiry about the origin of the disease. No light has hitherto been thrown on the subject; and it may safely be asserted that the immense labours of Astruc, Sanchez, Gittner, and many others, have had no satisfactory results. When we view the venereal disease as it now reigns, when we take into account the circumstances which surrounded the ancients, we must come to the conclusion that the disease has at all times existed. We find in the Scriptures descriptions of complaints which might very well be referred to blennorrhagia. Truly syphilitic affections, however, are not mentioned in them; but then, what are we to think of lepra?

Hippocrates speaks of an ulceration of the genital organs; Galen mentions the contagious nature of blennorrhagia; and Celsus gives a description of the different affections of the parts of generation. It must be confessed that the latter speaks neither of their causes nor diagnosis, but he overlooks these matters also in the description of other diseases. The Greeks, the Arabs (Avicenna, Aretæus, Albucasis), the physicians of Rome, have one and all given descriptions which cannot be mistaken. William de Salicet and Gordon give detailed accounts of ulceration of the genitals, and they attribute them to intercourse with women neglectful of cleanliness, and who abound in sanies (1467). Proceeding chronologically, we reach the famous epidemic of 1493-4. This was really a revolution of the disease, not only with reference to the study of the same, but with regard to the ravages it made at that period. The constitutional manifestations caused the local affection to be overlooked; all the mischief was attributed to the former, and they alone fixed the attention. At that time, then, the disease was looked upon as an inseparable whole. But these hasty views soon gave place to a calmer consideration of the subject, and the links which had been made to connect the heterogeneous parts of these affections, were broken asunder.

Alexander Benedict gave his contemporaries a glimpse into the origin of the syphilitic poison. Fernel studied its source, and the different accidents which may follow it. At last, John Hunter came, and laid the true foundation of the science of venereal affections. From Hunter's time until 1811-12-13 no advance

was made. At this time arose a violent opposition to the then existing doctrines, and it threatened to overthrow all that had been taught since 1493. According to the supporters of the new theory, specificity was an illusion: irritation and inflammation were to account for everything. These battles, however, soon vanished; the spirit of observation triumphed, and venereal diseases resumed their proper bearing. All varieties were placed under the same category, and from that time improvements went on steadily.

In order to appreciate the value of history, it must be remembered that the ancients, up to the famous epidemic, were acquainted with local symptoms. The only mistake they were making was, that among these local symptoms they did not distinguish the specific from the non-specific. But it has been asked, how did it happen that these ancients, being familiar with local appearances, did not hit upon the connexion existing between these and constitutional symptoms, or, in other words, the connexion between cause and effect? I answer to this, that they likewise overlooked the relation of simple wounds of the genital organs with the appearances arising from them in neighbouring parts, viz. the relation between epididymitis, blennorrhagia, or bubo, and a simple wound of the penis. Besides, it is very possible that the secondary symptoms, which we now regularly observe within a stated period, might have been much more tardy with them, so as to make the connexion pass unnoticed. Is not this very connexion forgotten in our own days, by men who daily come into contact with this disease? I may ask, moreover, whether it is proved that syphilis alone was concerned in the epidemic of 1493? Could not glanders, farcy, typhus, &c. &c., have had something to do with it? Did not the famine and misery caused by the wars of Charles V., the expulsion of the monks from Spain—did not all the disasters of those times contribute to the outbreak of that fearful epidemic?

When people came to be at a loss as to the origin of syphilis, they thought of ascribing it to unnatural connexion, to the influence of the stars, the heavenly wrath, the air, the water, even to anthropophagy, &c. &c.; but is it not more natural to believe that the epidemic spread under the agency of a cause which had rendered the human body more accessible to the general infection? Do we not every day see patients who, having become locally affected, surrounded by certain circumstances, affected in the same way as before, exhibit secondary accidents?

After this epidemic, the venereal disease became again what it had been before, now that the epidemical tendency was disappearing.

It is in the fifteenth century, too, that the American fable was invented. Sailors were said to have imported the disease from St. Domingo into Italy. Here we must notice that the faculty of inoculation must have been preserved during so long a voyage, and I do not think this at all probable. Besides, how can we imagine that a few men could, at the same time, have infected so many nations? Other circumstances were evidently necessary; and I do not hesitate to consider this as a mere story. But even if we were to admit that we are indebted to the Americans for the venereal disease, we should thereby only remove the limits of our inquiry still further. Could not the Americans ask us, or ask themselves, where *they* had it from. It is quite certain that the disease is not more innate in that country than in any other; and as for the elevated temperature which has been looked upon as one of the causes of the development of syphilis in America, it may be objected that the temperature of some parts of the eastern hemisphere is just as high. We all know that the Arabs successfully used mercury in skin diseases, and that, now-a-days, we cure with this metal only those cutaneous affections which have a syphilitic origin. Could we not hence infer that these diseases had a syphilitic nature?

This sad complaint has arisen wheresoever sexual intercourse took place; and Voltaire was quite right when he said, "It is with syphilis as with the fine arts, it grows, comes to perfection, and no one knows whence it came."—*Lectures delivered at the Hôpital du Midi.*

[South has some interesting quotations from the "Rosa Anglicana" of John of "Gatesden," better known as John of Gaddesden (1320), and John of Arden (1377). He remarks that he is not by any means sure that even syphilis, with

its primary sores, was not known to the latter. *Notes to Chelius*, vol. i. p. 163.—H. A.]

ART. 48.—*Syphilitic Myringitis, or Inflammation of the Membrana Tympani*. By W. R. WILDE, Esq.

(*The Dublin Quarterly Journal*, Feb. 1848, p. 106.)

[Although syphilitic affections of the organs of hearing have been noticed by authors, Mr. Wilde believes that no authority hitherto has mentioned this disease.]

The disease which I am about to describe is an inflammation of a specific character, occurring in the membranes of the tympanal cavity, but chiefly exhibited in the external membrane of the drum. All the cases I have seen of this affection occurred in young men, and generally those with fair complexions and blue eyes, who had had primary sores upon the genitals, from six to twelve months previously, which sores were rather of a deceptive character, so that mercury was seldom given in the first instance; at least in a legitimate form. These sores were usually tedious in healing, and followed by papular eruptions and sore throats, for which mercury was, in most of the cases, taken irregularly. Buboës were not a common attendant, nor had iritis ensued in any of the instances of well-marked venereal myringitis which fell under my notice; but copper-coloured blotches, fissures, and ulcers of the tongue, with loss of strength and slight nocturnal pains, generally speaking, existed previous to the aural affection, which should, I think, be ranked as a tertiary symptom. In four cases out of five of this disease which I witnessed last year, the disease appeared suddenly, as an eruption was fading off; in the fifth it came on at a later period, and was accompanied by loss of hair; in all it appeared in the upper or middle ranks of life. In some cases, there is at first a sensation of fullness in the head, and often vertigo upon stooping, or rising up suddenly, and the patients have usually a feeling of fullness within the ear; but in no instance have I seen it accompanied by acute pain, in which circumstances it resembles the subacute form of inflammation, already described at page 83, but upon inspection the amount of redness and vascularity will be found very much greater than the latter; and in this consists one of the chief characteristics of this disease, that while it is unaccompanied by local pain, as in the subacute inflammation, the membrana tympani will be found to present an amount of redness equal to, and sometimes exceeding, that seen in acute myringitis. The redness has generally, however, a brownish hue in the syphilitic form, which is not observable in that just alluded to. There is not, at first, much loss of polish, but in a short time the membrane assumes a fuzzy appearance. The auricle and meatus I have not seen affected more than in the subacute form; both ears are usually affected at the same time. The amount of deafness is usually very great, and is the symptom that first attracts the patient's attention, and it seldom varies. Tinnitus is not usually present, but in two cases which I possess the notes of, the deafness was ushered in by a very loud noise, which passed away after a few days. This inflammation does not end in mucous or muco-purulent discharge from the surface of the membrane, or the sides of the auditory canal; nor have I seen lymph effused upon the external surface of the membrane, as in the more violent and painful forms of otitis; but from the brownish red colour of the membrane in the early stage, from a yellow-speckled opacity, which is generally observable in it on the subsidence of the redness, and from the intense degree of thickening and opacity which were present in some cases, which were evidently the result of syphilitic myringitis, I am inclined to think that lymph is largely effused between the laminae, or upon the inner surface of the membrana tympani. Two of the worst cases of deafness (not congenital) I ever saw, appeared to have been the result of syphilitic inflammation, and in both there were great thickening, opacity, and insensibility of the membrane. I am also inclined to think that syphilis has played a more extensive part in the production of deafness than the profession is at all aware of.

ART. 49.—*The Nature and Cause of Painful Crepitation of the Tendons.*
By M. VELPEAU.

The man whom you have just seen is a dyer by trade, æt. 49, and his case deserves notice. A week since he endeavoured to raise a load, having his left hand applied to his hip. He felt a violent pain in this arm, and now we may perceive a slight swelling at the lower and external part of the fore-arm, unaccompanied by any change of colour or fluctuation. Of a regular and elongated shape, it is only painful during motion, while, on applying the hand over it, we may perceive a fine, characteristic crepitation; and it is an example of the *painful crepitation of the tendons* which was vaguely indicated by Boyer and Desault, described by me first in 1825, and has since formed the subject of the special writings of several authors. I first met with it in a case in the hospital of Tours, where it was suspected to be a fracture of the radius. The affection is especially observed among washerwomen, mowers, blacksmiths, locksmiths, and joiners; and when it is seated in the foot, among soldiers, huntsmen, &c. Excessive friction is the condition necessary for its production. In the forearm and wrist, where it is especially met with, its recognition is very easy, the crepitation it gives rise to being quite pathognomonic, being neither like that felt in fractures, that of cartilage or emphysema, but which has been compared to the crepitation of starch, or of hoar-frost, such as is produced by walking in the snow. Its seat is evidently the sheath of the tendons, and it is probably due to a slight inflammation, first causing too great a dryness of the mucous membrane, and afterwards giving rise to effusion. It is generally in nowise serious, disappearing in a few days by rest alone, but it must not be absolutely neglected, for I have seen it in some cases give rise to a fungous transformation of the sheaths; and, indeed, there is no reason why all the changes which occur in diseases of the joints should not take place here. If there is much pain, we apply leeches and poultices, and the resolvent lotions and compression, but rest is indispensable.

Gazette des Hôpitaux, and Medico-Chir. Review, Oct. 1847.

ART. 50.—*The Cause of Eschars over the Sacrum.* By M. BLANDIN.—From the earliest period of his medical career, M. Blandin has always entertained most serious fears for patients in whom sloughing over the sacrum occurs; and, in his "*Anatomie Chirurgicale*," published in 1826, drew the attention of the profession to the almost sudden manner in which they often prove fatal. He believes he has discovered the explanation of this in the following circumstances. The point which suffers most from pressure in dorsal decubitus corresponds to where the sacrum is joined to the coccyx—exactly there, where the vertebral canal is only formed by the posterior sacro-coccygean ligament. Sphacelus in this way may easily reach the termination of the arachnoid membrane, and air, pus, or sanies, gain admission into its cavity, producing a violent inflammation, which at first attacks the nerves of the cauda equina. Necrosis, too, may open a way into the vertebral canal with the same results; and in both cases the phlegmasia which results induces the phenomena of paralysis of the rectum, the bladder, and the lower extremities. When M. Blandin made his earliest observations, he was in the medical wards, and the accident is of no unfrequent occurrence in typhoid fevers. In the patient who gave rise to these remarks (a case of amputation of the thigh, otherwise proceeding favourably) there were retention of urine and paraplegia.

Medico-Chir. Review, Oct. 1847, from the Gazette des Hôpitaux, No. 71.

ART. 51.—*Case of Aneurism of the Arteria Innominata spontaneously cured, with Obliteration of the Left Common Carotid Artery.*

By JAMES A. WISHART, M.A., Assistant-Surgeon, 15th Regiment.

(*Monthly Journ. of Med. Science, Jan. 1843.*)

William Martin, æt. 40, a labourer, married, of fair complexion, on the 8th of April, 1844, applied to Mr. Biddle, surgeon, at Edmondton. He complained of having caught a severe cold while at work, by which he had lost his voice. When Mr. Biddle heard him speak, it at once struck him that his tone of voice

was occasioned by pressure on some part of the windpipe. On placing his fingers over the clavicles, a most distinct murmur was perceived, extending also up the neck. Over the superior part of the sternum, a strong impulse, accompanied with a bruit, was felt, synchronous with the stroke of the heart. The pulse in the right wrist was barely perceptible. These symptoms indicated the existence of an aneurism. Along with it the man had acute bronchitis, for which he was more immediately treated. His loss of voice, cough, and dyspnoea still continuing, he was admitted into the Middlesex Hospital, on the 27th of June, and discharged at the beginning of August. When I first saw him, on the 17th of this month, his symptoms were great dyspnoea, suffocating cough, inability to raise his voice above a whisper, moist râles over both sides of the chest, a strong impulse felt over the top of the sternum, and the pulse of the right wrist not perceptible.

The treatment was directed towards the disease of the lungs, and he was kept on very low diet. He continued much in the above state for a month, after which he gradually improved. He was strictly confined to the house, and took small doses of acetate of lead daily for several weeks. I visited him occasionally till the end of the year. There was then only a very slight impulse to be felt over the sternum. He had had for some time back repeated attacks of hæmoptysis, connected with the state of the lungs, which were then in an advanced stage of phthisis. He lingered on in much the same condition till the middle of February, 1845, when he became worse, and died on the 21st. A month before his death, no pulse could be felt in either of the carotids; for how long previous to that time it was absent, I could not say. *On opening the body*, thirty-six hours after death, both lungs were found full of tuberculous cavities. The aneurism was carefully dissected out and removed. It involved the whole of the arteria innominata. On laying open the aorta, the aneurism was found spontaneously cured, the innominata being entirely obliterated. The aneurism was considerably larger than a duck's egg. The tunics of the vessel were dilated in all directions into an oval pouch, which was completely and accurately filled by compact fibrine, deposited layer after layer, in such a manner as to fill the interior to the level of the aorta. The orifice of the innominata was dilated at this part to the diameter of a crown-piece, and the arch of the aorta was also somewhat expanded, in the coats of which there was an extensive deposit of atheromatous matter. The fibrine occupied a small extent of the interior of the aorta, so as completely to cover up the orifice of the carotid artery. This vessel, with the right carotid and subclavian, was entirely blocked up, and the circulation to the brain could only have existed in any considerable stream through the left vertebral artery, both it and the subclavian being somewhat enlarged in calibre. The circulation to the right superior extremity must have been carried on principally by anastomosis between the branches of the thyroid axis and vertebral arteries of the left with those of the right side. The right common carotid artery was slightly contracted, and filled with fibrine for about four inches above the aneurism. The right subclavian, and the branches of the thyroid axis, vertebral artery, &c., were pervious, and of their usual calibre. The aneurismal tumour adhered firmly to the front and right side of the trachea, on which it pressed, and slightly diminished its size; the mucous membrane of this part of the tube was of a reddish-brown colour, and a few points about the size of pins' heads were raised, as if at one time the aneurism had showed a disposition to burst into the trachea. The pneumogastric nerve adhered closely to the coats of the sac in front, and was considerably stretched.

The preparation is in the museum of the medical department at Chatham.

It will be observed that this man was kept on very low diet for a period of nearly six months, during which time he never left his room, and was principally confined to bed. It is probable that these circumstances, constituting pretty nearly the treatment of Valsalva, had great effect in producing the obliteration.—(Vide *Report on Surgery* in the present Volume.)

ART. 52.—*Case of Enormous Enlargement of the Left Mamma*, by W. E. IMAGE, F.R.C.S.; *with an Anatomical and Pathological Description of the Tumour*, by Dr. T. G. HAKE and W. E. IMAGE.

[*Medico-Chir. Transactions*, 1847; condensed.]

Sarah Harvey, *æt.* 21. *Previous history*.—About two years since, for the first time, she observed a red mark, about the size of a shilling, just above the nipple, and that the breast was enlarged; it was painless, even under pressure. She had not observed the enlargement of the breast until the red patch attracted her notice; the catamenia were natural. She continued for two months after this time free from any pain. As soon as it became painful, leeches and cold lotion were employed. The breast continued gradually to enlarge, the pain remaining the same: which, however, was not severe. Iodine was also employed fully, but ineffectually.

She remembered having struck her breast some time since with a pump handle, but did not suffer from the blow at the time; and she did not connect the accident in any way with her present disease. In fact, she was unable to remember whether the breast had begun at that time to enlarge.

Actual state, April 15th, 1845.—Breast pendulous: there is a blue, *nævus*-like spot just above the nipple, about the size of a half-crown piece, and several smaller ones of the same description in its vicinity. A general bluish or slate-colour characterizes the entire surface of the breast. The skin itself, except in the places above mentioned, is normal, and its leaden hue disappears during pressure. The diseased mass measures around its base *fifteen inches*; vertically across, *nine inches*; horizontally across, *eleven inches*. By gradual pressure it admits of being reduced to at least one half its bulk. The veins appear enlarged. There is no pulsation, no murmur. When the tumour is reduced by pressure, the patient complains of fulness and heaviness in her head; and on the pressure being withdrawn, pallor and faintness supervene: these manipulations are productive of scarcely any pain. The patient has the fresh and healthy appearance of a country girl; the catamenia are regular and natural, and no difference is experienced in the breast at the menstrual epoch: with the exception of occasional faintness of an alarming kind, and deep mental depression, the constitution is healthy.

The treatment employed was pressure by an air-cushion, within a metallic hemisphere, so as to bear equally upon every part of the breast. The plan was continued three months, but no advantage resulted. The pressure afforded a feeling of support to the part; on its withdrawal the mamma quickly became distended again, and great faintness invariably followed the return of blood to the tumour. Meantime, in spite of the diminution of bulk by pressure, the disease itself actually advanced, and in September, five months after admission, presented the following appearances. The patches of discoloration, previously described, had enlarged and become blended, new detached spots had appeared, and the *nævus*-like discoloration had attained to at least six or seven times its former size, as represented in the plate. This morbid superficies presented an irregular form, consisting of conjoined patches and isolated spots, having the character of *nævus*. The parts originally red had become purple, and those newly developed were red. The nipple had become almost obliterated, and the areola was obscured by the invasion of the morbid process. The spot primarily affected had become the seat of venous dilatation, so conspicuous as to form a prominent feature, and its outer tegument was so attenuated as to excite fear of its speedy rupture.

[After consultation with several surgeons, the following operation was agreed upon for its removal.]

To place the patient in a recumbent position, to make a vertical incision on either side of the enlarged mass, and, as far as the healthy skin would permit, to dissect back two flaps, securing the bleeding vessels as the operation proceeded; to pass two very long and strong needles, firmly fixed in handles through the base, so as to meet each other at right angles in the centre of the base of the tumour; and having armed them with double ligatures, to return them. The needles being detached, the ends of the ligatures, eight in number, were to be firmly tied, and the tumour was thus to be strangulated.

Sept. 25th.—The tumour now projected seven inches from the chest, and measured twenty-three inches around its base, thirteen inches vertically across, and fifteen inches horizontally across. It was evident that it was daily increasing; and the menstrual period having just passed away, I determined to operate speedily. There was at this time a very distinct thrill communicated from the heart.

The operation lasted twenty minutes; during the latter part of which she was faint, having lost about 14 oz. of blood, and it was evident the shock was severe during the time the ligatures were tightened. She vomited soon after she had reached her bed, and the pulse was scarcely perceptible; after a short time, however, she rallied a little. Stimulants, mixed with gruel, as well as opiates in a liquid form, were administered from time to time, but were not retained, as the vomiting returned. There was now considerable oozing of venous blood, particularly from the inferior portion of the wound, through which one of the ligatures had passed. It was arrested by gallic acid and pressure. Opium and beef-tea were administered by the rectum.

Sept. 26th. Passed a sleepless night. The vomiting still continued, as well as some degree of venous oozing. The pulse was rapid and small, with other symptoms of collapse, the result of shock and loss of blood. The total loss of blood amounted to about 30 or 36 oz. She sank at half past 10 A. M., twenty-two hours after the operation.

Description of the tumour.—A horizontal section of the mamma, through the nipple down to the base having been made, an appearance presented itself which was calculated to mask rather than reveal the nature of the disease. It is to be recollected that the ligatures used in the operation, when drawn tight, had the effect of compressing the blood within the vessels of the mamma, and of causing it to stagnate there. The tumour thus strangulated had been cut off from the circulation for a period of twenty-two hours, and had remained for a like period after death before it was dissected. The appearances, therefore, on a section being made, were those of strongly-marked congestion, caused by the operation. In the midst, however, of this artificial condition of the tumour, there existed traces of structure both healthy and morbid.

The skin was unaltered in structure, except in the places already described, where the disease was visible externally.

The adipose tissue and fibrous laminae, situated between the skin and glandular substance, were compressed together, on the anterior aspect of the breast, into a dense tough membrane, in which there was an almost total absence of the fatty matter. At and around its base, however, the fibrous tissue was natural, except where perforated by dilated veins; and was intermixed with adipose tissue in the usual manner, underneath the skin which surrounded the base of the organ.

The lactiferous ducts were observed passing from the glandular structure, through the parts in front towards the nipple, but were lost in the condensed tissue before reaching it.

Vestiges of gland, varying in size from that of a millet-seed to an almond, were scattered over the exposed surface.

Besides the venous apertures already alluded to, there existed in the fibrous tissue at the base of the organ, where the dilated veins penetrated, certain cells of considerable size, which were the result of the operation, as will be shown presently. Within these false cells, blood was found, in a semifluid state, and resembling currant jelly; and connected to their walls were seen the torn remains of lactiferous ducts and glandular substance.

The arteries and nerves of the mamma were unaltered.

The absorbents were not examined, but there was no evidence of their enlargement. The capillary vessels could not be injected.

The internal mammary vein, towards its junction with the subclavian, presented an irregular and sacculated appearance. Immediately in advance of each sacculated portion, in the direction of the heart, the vein was narrowed.

The interior of the sacculated portion of the vein was found to present a valve-like formation; the narrow parts were thickened, and the sacculated parts were formed of one hollow within another.

The superficial veins were dilated uniformly into large sinuses.

The mammary veins, internal and external, were traceable backwards into a cellulated structure, to be described presently.

All the preceding facts were visible to the eye without assistance; what follows was discovered by the aid of the microscope.

In whatever part of the mammary organ a section was made, and examined under water through the microscope, with a low power, the apparently uniform and glistening surface was resolved into cells. These cells were of various sizes; and within the greater, lesser ones were visible. Into these cells, all the veins of the organ were traceable; indeed, no vein was found to have any other origin, so that the cellulated structure of the tumour was essentially venous, consisting, in fact, of the veins situated between the capillaries and vein-trunks, in a state of distension. The rupture of these cells, from pressure of blood under the ligatures during the operation, produced those large false cells already described as containing blood, pendulous fragments of lactiferous ducts, and their attached glandular substance.

The dilatation of the more minute venous structure of the organ into cells was a medium through which every tissue may be said to have become preternaturally, though uniformly, separated and distended. The effect of this was very evident in the fibrous as well as the glandular structures, which are intimately associated in the breast. By the increase of bulk to which this cell-formation gave rise in the organ, the lobes of the gland were separated further apart, and these, in their turn, were subdivided into isolated lobules.

The distending force had likewise produced its characteristic effect on the fibrous structure of the organ, the tissue in question being known to involve the gland and its parts. In health, the fibres of this tissue are parallel and closely united; but when examined in the present instance, they were found to have given way to the dilated veins. Their texture was completely altered, being converted, in some places, into a kind of network, through which the vein-cells passed. The process of formation of this cellulo-fibrous tissue may be thus described. In the first instance, the fibres are so slightly separated as to be only no longer parallel; they are then perforated by venous cells at intervals; and finally are separated so completely as to appear cellular.

Such were the effects, doubtless, of the formation of venous cells, itself caused by the force of the blood acting gradually and during a considerable period of time upon the venous system, the free passage through which was choked up near the junction of the left internal mammary vein with the subclavian. *The slight disproportion between the arterial and venous circulation, resulting from the narrowed condition of the internal mammary vein, was the evident cause of the fatal disease which ensued.* There was more blood supplied by the arterial, than could be carried off by the venous system of the mamma; hence its accumulation, and the adaptation of structure to this new condition of the circulation.

The disease above described, caused probably by the effects of a blow on the trunk-vein of the left mamma, is unique, and may not occur again for a considerable time.

SECT. III.—TREATMENT OF SURGICAL DISEASES.

ART. 53.—*The Treatment of Acute Myringitis.* By W. R. WILDE, Esq.

(*The Dublin Quarterly Journal*, Nov. 1847, p. 403; condensed.)

Counter-irritation, by means of small blisters, applied upon the bald space behind the auricle and below the lobe, is advantageous in the more advanced stages of the disease, and after local depletion, has been fully employed. Generally speaking, blisters are too much relied upon, or applied too early in the disease; but as it advances, they will be found highly useful, and the surfaces which they expose may, with advantage, be dressed with mercurial ointment.

Having resorted to all these means, we should, if the symptoms—not only of pain and deafness, but of the redness and vascularity of the tympanic membrane—remain unrelieved, at once have recourse to the use of mercury. Indeed, I am now so fully convinced not only of the utility but of the urgent necessity of

employing mercury in these aural inflammations, that I do not hesitate to recommend its use in the early stages of all such affections. Not only should the gums be touched, but the patient should be kept under its influence for some days, in order to insure an ultimate beneficial result.

The temperature, in cases of acute myringitis, should be strictly attended to; the patient should, if possible, be confined to a warm, well-ventilated apartment, or, if obliged to go abroad, the cold air should be carefully excluded from the ear; but in the severe form of the disease, it is absolutely necessary to confine the patient to bed.

Depletion is strictly enjoined; but I have seldom found it necessary to resort to general bleeding. Local depletion is imperatively required, either by cupping or by leeches; the former is not easily managed so near the part affected as to be of much service. In cases, however, of very severe internal otitis, it may be had recourse to, and a dexterous cupper will abstract several ounces of blood from the soft parts immediately behind and beneath the mastoid process; and if the head be much engaged, blood may be abstracted by the same means from the nape of the neck. Leeches are, however, the most effectual means of abstracting blood and retarding pain in all such cases. They should not, however, be applied in the usual manner behind the mastoid process; to be of much service, they must be applied with a leech-glass, immediately around and within the external meatus, in the fossa behind the tragus, and, if necessary, in front of that prominence, in the hollow formed by depressing the jaw. From four to six leeches may be readily applied around the meatus, and in this situation they will produce more permanent and immediate relief than three times the number affixed over the mastoid region. The application in front of the tragus is also very much more effectual than upon the mastoid region. When, however, the latter locality becomes itself the seat of inflammatory action, they should also be applied freely all over it. Where we have already recently applied leeches in the two first-mentioned localities, and that the parts have thereby become swollen and irritated, the next most advantageous position is beneath the lobe of the auricle, behind the ramus of the jaw. I do not know any painful affection in which leeches applied in the manner directed produce the same amount of immediate relief as the disease under consideration. They should be had recourse to again and again, even upon the same day, to relieve paroxysms of pain, as well as to lessen the degree of redness and vascularity observable.

The application of heat and moisture is particularly grateful in such cases; steaming the ear, by holding it over the vapour of some very hot water placed in the bottom of a long, narrow vessel, medicated with hyoscyamus, opium, belladonna, or with the ordinary decoction of marsh-mallows, chamomile, or poppy-heads, if faith be placed in such, gives great comfort. The Russians employ a peculiar apparatus for relieving pain in the ear, consisting of a funnel-shaped roll of linen, the small end of which is applied to the meatus, while the large end, in which various balsamic substances are placed and set fire to, is allowed to burn down slowly like a moxa. A warm linseed-meal poultice, renewed every two or three hours, and particularly applied at bedtime, gives great relief. Stupes and fomentations are not, I find, as efficacious in aural as in ophthalmic inflammations.

The bowels should in this, as in all other febrile diseases, be opened; but the condition of the digestive organs does not appear to influence the inflammatory affections of the ear as much as they do those of the eye. The state of the skin, however, which is generally hot and dry, requires our more especial attention; and sudorifics are, in the early stage of the disease, decidedly indicated. Having leeches, fomented, and, if necessary, purged, James's powder, combined with small doses of blue pill and henbane, will be found very efficacious. Abstinence from animal food, and the use of the pediluvium, together with all such means as are calculated to allay inflammation and febrile excitement, should be had recourse to.

In the subsequent management of the disease, the iodide and bromide of potassium, or very minute doses of the bichloride of mercury, in some of the preparations of bark, will certainly hasten the cure, as well as promote absorption of the deposits and adhesions. The treatment of the tinnitus which remains shall be considered under the head of the chronic form of the disease.

Under no circumstances should we pour any stimulating or sedative liquors into the ear. The state of the part should be examined with a speculum daily, or oftener if necessary; and then, should we discover an ulcer, it may be touched with a solution of nitrate of silver, applied upon a fine camel's hair-pencil. If otorrhœa has occurred, either from mucous discharge or from the external surface of the tympanal membrane and the auditory canal, or owing to pus or mucus escaping from the middle ear through an aperture in the membrana tympani, or from an abscess occurring in the walls of the external auditory canal, we should remove the discharge by very gently syringing the part with simple warm water, or the most bland unirritating fluids; but during the high inflammatory process no astringent injections whatever should be employed.

Should the mastoid process, or the parts covering it, become engaged, and that the methods already recommended fail to give relief, or that even an indistinct sense of fluctuation can be discovered, we should not long hesitate to make a free incision in the periosteum there, at least an inch in length. In performing this operation, the head should be firmly secured, and supported against some unyielding substance, as the back of a high chair, or the breast of an assistant. A stout scalpel is the best instrument to employ. It should be grasped so that the forefinger and thumb may come down upon the blade, so as to leave about an inch of it uncovered. It should be inserted steadily till the point reaches the bone, which it should be made to traverse, for the full length of the incision. By this means we secure complete division of the periosteum. With regard to the line of the incision, circumstances may require its being made in other directions; but I find that it is most generally required parallel with, and about an inch from, the attachment of the auricle. The knife should be drawn upwards, and from the swollen state of the parts, the depth which we are sometimes obliged to introduce the instrument is often nearly an inch. The hemorrhage (unless we wish to extract blood), may be arrested by placing a dossel of lint within the incision. The cut surfaces generally present the brown-like appearance seen in phlegmonoid erysipelas. Although pus may not have been reached by the incision, still immediate relief is almost invariably experienced. The subsequent management of this particular part of such a case must depend upon the circumstances of exfoliation, &c. The treatment of the chronic form of the disease shall be considered in the subsequent part of this communication.

ART. 54.—*The Treatment of Pes Equinus. Successful Operation by the late Professor DIEFFENBACH.*

(In a letter to the Editor of the Medical Times, Dec. 4, 1847; from Dr. BUSHNAN.)

[After remarking that neither simple orthopedic treatment is of itself capable of relieving deformities, nor that these are to be cured by a species of sleight of hand, and that the professor combined mechanical manipulation with the use of instruments and the section of muscles and tendons, in one happy whole, assigning to each its proper place in the treatment, Dr. Bushnan states that he has witnessed the most effectual cures of club-foot of every description—contractions of the knee, hip and elbow-joints, at obtuse or acute angles; in fact, of every degree of contraction, from that of a toe which merely impeded the proper adjustment of a boot, to that of the principal limbs, interfering with their motion, and producing unsightly deformities;—that it was one of Dieffenbach's greatest qualities to individualize quickly, and even during an operation; that it is not this or that tendon to be divided in any given contraction, and according to a certain theory, but that it is now this and now that—now more and now less, and always as little as possible; that Dieffenbach was never tempted, like some surgeons, by a love of display; never forcing the limbs immediately into their position, so as to astonish a class by a kind of miraculous conjuring, but, on the contrary, he allowed, in many cases, days to elapse before he commenced the orthopedic treatment, further than that of a slight enveloping bandage; the reason being that the matter deposited between the cut extremities of tendons possesses great elastic power, and it is only when the divided tendons are so reunited that the parts are in a condition to be subjected to the necessary extension. The following cases are described:]

CASE I. Fedor W., son of a baker, at Furstenwalde, was born with pes equinus

of the fourth degree. In his early years he had crept on all-fours, and all endeavours to make him walk were frustrated by the position of his feet, which were in straight lines with his legs. As he advanced in life he learned to walk upon crutches. At nine years old he was brought to Dieffenbach. At that time the deformity was threatening to advance into the fifth degree; the instep was yielding, and becoming altogether everted; it would soon have formed a sole for the foot. The distal extremities of the metatarsal bones were turned backwards, and rested on the ground; the toes were turned upwards, and the sole was concave, corresponding with the convexity of the dorsum. The heel was retracted, and the muscles of the leg shrunk and withered. The thigh was very thin, and the pectinei muscles rigid from excessive extension. He walked as on stilts, leaning his whole weight on his crutches, and bending forwards.

The operation consisted of the subcutaneous division of the tendo Achilles. The limbs were then lightly enveloped in bandages, and after a few days laid in Stromeyer's machine, and gradual extension had recourse to. In fourteen days after the operation the feet were at obtuse angles with the legs, and in two months they had acquired their natural position. The boy could now put the soles of his feet to the ground; but the limbs were still weak, and he could not stand upright without pain. The abduction of the thighs was greatly impeded by the rigidity of the pectinei muscles; these were, therefore, divided, and then free motion was established. The necessary orthopedic treatment was carefully pursued, and the boy was soon able to throw away his crutches, to walk alone, and without deformity.

CASE 2. Marie K., æt. 14. Pes equinus on the right side. The foot formed one straight line with the shin; its form was altogether destroyed, and consisted of a shapeless mass. The tendo Achilles and flexor pollicis were divided. After a few days, orthopedic treatment was resorted to, and the foot soon assumed a better form. In six weeks the cure was effected.

ART. 55.—*The Treatment of Hemorrhage.* By J. P. VINCENT.

(*Observations on some of the Parts of Surgical Practice, 1847; p. 217.*)

The most important step in managing all cases of bleeding is, that the surgeon should be most careful to keep the bleeding vessel free from all coagulum. The smallest arteries will go on bleeding if they are covered with a clot, and many considerable hemorrhages will stop if the bleeding points are quite clear from all blood; even rather large arteries will sometimes permanently cease to bleed, if kept uncovered and exposed to the air. This fact I have seen. It is known that if a divided artery be in contact with a layer of fibrine, it has a strong affinity and aptitude to shoot into it; and it is possible that a clot of coagulum has a modified effect of this sort upon the orifice of an artery, so as to keep it from contracting and closing. It is, however, certain that a coagulum over a bleeding artery keeps up hemorrhage. It is by this means that all styptics have generally failed, while, for the most part, they have only done what bare exposure will generally effect; if the blood be carefully removed, and the styptic be applied, it has the credit of supporting its character, but generally, if the blood be removed and kept from forming a coagulum, the vessels will cease bleeding, as the effect of the mere exposure of the part. The doctrine explaining the use of plugs of coagulum about an artery to restrain its bleeding, was never to me very convincing. I know, practically, that arteries of a considerable size, such as those about the hand, of the size even of the radial, will cease to bleed if left quite exposed, and kept freed from a coagulum taking place about them; so, when a socket of the tooth bleeds, if it be kept quite clear of coagulum, and the oil of turpentine be applied, it will succeed in quickly arresting the bleeding. I have every reason to feel assured, from what I have tried in these cases, that the bleeding may be stopped in epistaxis upon these principles, by which the patient may be saved from the annoyance of what is called plugging. The plan of the proceeding that I have adopted is to keep the parts which are bleeding freed from all coagulum, and this should be done in this case by syringing the nostrils, so as to wash the blood out. Now, if a styptic be used, such as the sulphate of zinc, it coagulates the blood as it issues from the vessels, and so far stops the bleeding; but there is a process going on,

by which this clot is loosened from its adhesion, and perhaps on the second day, the bleeding is renewed. This will happen repeatedly; so that these cases have ended by being plugged. But what I contend for is, that if the syringing be carried on until the bleeding ceases, it will not only stop, but not recur. It is generally considered of importance that the water used in cases of bleeding should be cold, but from what I have observed, arteries will contract under the use of warm water, which has a better effect in clearing away the clots, and keeping the parts clean from the blood. I have already alluded to the influence of a coagulum in keeping up bleeding, when speaking of the necessity of squeezing out the coagulum in a pile when it is opened.

[The novelty of Mr. Vincent's views will strike every reader; we must confess, that were they from a less experienced surgeon, we should hesitate in extracting them. The application of cold, in particular, has been admitted universally as a means of arresting hemorrhage; plugging and promoting the formation of a coagulum has also been very generally taught and practised. Malgaigne, we observe, treats of hemorrhage as capillary, venous, and arterial. (Operative Surgery.) In the first, he recommends the removal of clots, exposure to air, and the application of cold; in venous hemorrhage, compression of the part, so that a clot may form; and he gives sixteen plans resorted to by surgeons for the arrest of hemorrhage from the open mouths of arteries.—H. A.]

ART. 56.—*Luxation of the Transverse Apophysis of the Fourth Cervical Vertebra reduced on the Seventh Day; with some Considerations on Luxations of the Vertebra in general.* By Dr. SCHRAUTH.

(*Archiv. für Physiolog. Heilkunde*, and various French and English Journals.)

CASE.—J. St. B. de B., æt. 25, a weaver, was seized on the night of the 26th of February, 1843, by two vigorous men, for the purpose of throwing him out of the door. B., suspended in the air by his two adversaries, put his hands on the jambs of the door; then one of them taking him by the head and neck, and the other by the trunk, they threw him against the wall of the landing-place. B., on getting up, immediately complained of a severe pain in the neck, saying—"They must have torn a piece of flesh from my neck," and he could no longer stir his head. A barber, who was consulted the next day, rubbed it with an ointment; but as the stiffness remained the same, and the pain increased, B. went, on the 28th of November, to Dr. T., the distance of a league. To relieve the pain in the neck, he was ordered repose, abstinence, bleeding, leeching, cold fomentations, and a saline purgative. In spite of the prohibition of the doctor, the patient returned on foot, although, on his arrival, he was worn out with fatigue, on the point of fainting, and covered with a cold sweat. Dr. T. went on the following day to the patient, and continued the antiphlogistic treatment; but as the state of the patient was still the same, on the 2d of December he made his report to the authorities. The author of this memoir, on the 3d, found the patient lying on the bed, his head turned to the left; he was hoarse, spoke with difficulty, was sensible, and complained of a pain in the nape, and a swelling in the left arm; he was of a middle size; of a phthisical habit; the muscles flaccid and soft; the neck long and thin; face pale; eyes haggard; the head immovable, like a statue, turned to the left, and a little bent forward. He could incline the head a little forwards, but every other movement was impossible; the larynx was not too prominent, during deglutition, which was easy in other respects; he experienced a sense of swelling in the pharynx. Examined from behind, the head and shoulders were bent forwards a little, the shoulder-blades projecting, and the vertebral column much sunken, and a little turned to the left. When the arms were stretched upwards and forwards, the vertebral column appeared straight, with the exception of the neck, which was bent to the left and forwards.

On pressing on the shoulders, the patient felt a severe pain from the sixth to the second cervical vertebra, and a less severe one from the third to the eighth dorsal vertebra; but this latter, he says, came on later, and was propagated from above downwards. Slight tumefaction and ecchymosis of the skin, caused by leech-bites, covering the third, fourth and fifth dorsal vertebrae. The spinous apophyses of the dorsal vertebrae were arranged in a normal right line; but the spinous pro-

cess of the fourth cervical vertebræ was a little turned to the right and sunk—that is to say, pushed forwards. As the patient was very thin, the transverse processes of the cervical vertebræ could distinctly be felt; the fourth was painful, and projecting to the right. The neck was visibly a little bent to the right. No unusual tension of the muscles of the neck; no symptoms of spinal irritation; pulse hard and quick; no appetite; great weakness.

Diagnosis.—Luxation of the fourth vertebra on the fifth in the articulation of their right transverse apophyses, with rupture of the ligaments of that articulation; stiffness of the neck, without lesion of the spinal marrow.

Prognosis.—Very unfavourable; for if the patient were abandoned, then would come on either inflammation, paralysis, marasmus, or at best, a permanent stiffness of the neck, and on attempting reduction, he would run the risk of the greatest danger. Notwithstanding, reduction was decided upon, which was performed with the greatest caution. An assistant pressed on the shoulders of the patient, who was seated in a chair; another pulled the head upwards, whilst M. Schrauth applied his thumb under the right side of the neck, and pushed the projecting part backwards and upwards. The patient felt his pains diminish during the traction exercised on the head.

Encouraged by the first result, the patient was made to sit on the ground; two strong cravats, passed under his chin, and knotted separately at each side above the ears, were confided to two assistants: another cravat applied to the nape, and twisted in front of the forehead, was given to a third assistant. These three men drew the head directly upwards; a fourth assistant, seated behind the patient, seizing his trunk and shoulders, made counter-extension by leaning with all his weight. Dr. T. was charged with pushing onwards and backwards the right transverse apophysis which projected, and then M. Schrauth, seizing the head with his hands, directed the movements.

The patient held M. Schrauth with his right hand to warn him when he ought to stop the tractions; the stronger they were, the more ease they produced. Whilst they continued thus pulling gently and prudently, they made slight movements forwards and backwards, to the right and left; then they gave the neck a slight turn on its axis. During these manœuvres, which were frequently interrupted, various distinct cracklings in the neck were heard: these movements became easier by degrees, without being followed by accidents. The patient then held his neck straight without pain. After some instants of repose, M. Schrauth seized, without employing much force, the head between his hands, the body being sustained, and repeated the movements so easily, that the patient himself soon executed them alone. He could lower the chin as far as the chest, raise the face to see a nail in the ceiling, and turn the head from side to side, so as to see his shoulders. The sinking of the spinous apophysis, and the projection of the transverse apophysis of the fourth vertebra, had disappeared. The success of the reduction appeared proved. B. was put to bed without bandaging; they prescribed Glauber salts with nitre, a large bleeding, twenty leeches, and cold fomentations on the neck and upper part of the back.

Dec. 4th. Pains in the neck and back; diminution of the swelling of the left arm; sleeplessness; little thirst; pulse quick.

5th. The pains less; slept for three hours; complete cessation of the swelling; the lymphatic glands of the neck and armpit swelled; pulse soft and slower.

6th. Swelling of the glands more pronounced; the cold compresses replaced by warm applications.

After some days of repose, the patient could resume his occupation without stiffness in the movements of the neck.

[The details of this interesting observation appear to us sufficient to prove the truth of the diagnosis of this luxation, which could neither be confounded with a fracture nor with a severe contusion, and we do not think it necessary to follow the author in his long anatomical and physiological dissertation.]

On the occasion of this observation, M. Schrauth made bibliographic researches, which brought to his knowledge twenty-six other cases of luxations of the cervical vertebræ, with his own, twenty-seven. In this number, three times, death immediately followed the accident; in seven cases the patients sank afterwards, without reduction being attempted: in three cases, the consequences of the acci-

dent are not stated; three times there was a cure without reduction of the vertebræ, but the motion of the neck remained confined; in eleven reductions, nine were successful, and two were followed by death.

Seat.—The luxation took place—

Three times between the 1st and the 2d cervical vertebræ.					
Twice	"	2d	"	3d	"
Five times	"	4th	"	5th	"
Twice	"	5th	"	6th	"
Twice	"	6th	"	"	"
Once	"	7th	"	"	"

In the other cases the seat was not stated.

Direction.—It was four times forwards, twice backwards, six times to the sides; fifteen times it was not recorded.

In the nine individuals (two with paralysis and loss of sensation) in whom the reduction was followed by success, the luxation was twice forwards, once backwards, and four times sideways; and in two cases it is not stated.

The table speaks in favour of the reduction, the more so, as in many of the patients in whom it was neglected, either death supervened afterwards, or life was rendered hopeless by the consecutive accidents.

[Guerin reduced a seven months' dislocation of the second vertebra of the neck upon the third.—*Revue Médicale*, Aug. 1840, p. 276, quoted in *Chelius*.]

ART. 57.—*Case of Ununited Fracture treated by Galvanism.*
By JAMES BURMAN, Esq., Surgeon, Wrath, near Rotherham.

(*The Prov. Med. and Surg. Jour.*, Dec. 1, 1847.)

Mr. Thomas Lister, aged 35, a railway superintendent, of a robust constitution and regular habits, had the misfortune, in the summer of 1845, to fracture his leg by being thrown from his gig. The surgeon who attended him seems to have put the limb into a very good position, and everything appeared to go on well, till, upon removing the splints, it was found that union had not taken place; and as his constitution had suffered, partly from the necessary confinement, and perhaps partly from the want of proper stimulants, consequent upon "teetotal" practice, his surgeon ordered him a more generous diet, and removal to the coast, but still no improvement took place.

He put himself under my care, just fourteen weeks after the accident. Upon examination, I found a transverse ununited fracture of the lower third of both tibia and fibula; there was no formation of callus, and the fractured ends of the bones were quite movable, but could be readily adapted to each other; neither was there any inflammatory action about the parts, although having been advised to rub the two ends of the bones together, he had very assiduously followed that advice. Mr. Guthrie had seen the case a few days before, and recommended Amesbury's splints, a modification of which I at once determined to try, in connection with the application of electro-magnetism, which I had a good opportunity of doing, as my pupil was at that time making some experiments with a small apparatus. I therefore had a kind of boot made for him, of turned sheet-iron, which, when applied, embraced the whole leg, ankle, and foot. This I had well adapted to the limb by means of padding, so as to prevent any lateral motion—an object which was the more readily accomplished, as the fracture was perfectly transverse, and that part of the boot which was directly over the fracture was made to turn back upon a hinge, so that I could at any time get to the injured part, without in the least disturbing the limb.

With this apparatus firmly fixed, and assisted by a pair of crutches, he was directed to take daily exercise in the open air; to partake freely of wine, porter, and animal food; and, when sitting in the house, or lying in bed, to have the fractured ends firmly pressed against each other, by means of a broad band passed over the knee, and under the foot-board, capable of being tightened by a strap and buckle, the leg being bent at the same time at a right angle with the thigh. This strap was to be removed, and the limb to be permitted to hang down and partially used when taking outdoor exercise. In addition to this, for near half an hour every

day, an electro-magnetic current was made to pass directly through the fracture, by means of needles attached to the two poles of the apparatus, their points being inserted just under the skin, one on each side of the fracture. This plan of treatment was commenced on the 9th of October, 1845; by the 22d, sufficient inflammatory action had been set up to render the further application of galvanism unnecessary; and by the 30th, the deposit of callus was so copious, and the union of the fracture so firm, that at my patient's earnest solicitation I gave him permission to return to his duties, directing him still to wear his boot, and to continue the use of his crutches.

I did not see him again for some considerable time, but he informed me that after the first week he threw away one of his crutches; that the next week he grew tired of his boot, and threw it on one side, together with his other crutch, and went away comfortably about his business, with only a stout walking-stick, which he continued to use for some time; and when I again saw him, one leg was equally as firm and sound as the other, the point of fracture being marked by a thick firm band of callus.

I think I am justified in attributing the great and sudden healthy action which was set up in this case mainly to the influence of galvanism; for while similar cases under the usual modes of treatment have, under the most favourable circumstances, required long and tedious attention, this case began to improve from the very first application of the remedy; within three weeks firm union had taken place, and in less than six weeks the cure was perfect.

The electro-magnetic apparatus that I made use of was a double coil machine, excited by two *electrometers*, on Professor Daniell's principle. I at first endeavoured to establish the current by two small metallic discs, one connected with each pole, and placed on each side of the fracture; but finding that little or no perceptible action was thereby produced, I substituted needles for the discs, and introduced their points in an oblique direction, just under the skin, on each side of the fracture, thereby causing the galvanic current to pass directly between the ends of the fractured bone. The moment the circuit was completed by the introduction of the second needle, the sensation was most acute; but in a minute or two the pain became bearable, and the patient was able to sit under it for from fifteen minutes (the time occupied at first) to a good half hour, to which I extended it the last three or four times.

ART. 58.—*Aphorisms on the Treatment of Varicocele.*

By Dr. FRITSCHÉ, of Fribourg.

(Collected from a complete Manuscript on the subject, *Mechanische Annalen*.)

[The various operations for varicocele here referred to, with other modern suggestions, are described at page 215 of the Second Volume of the "Half-yearly Abstract."]

1. Varicocele is a frequent disease of comparatively little importance, since it seldom occasions any serious results.
2. For this reason the most celebrated surgeons (Boyer, A. Cooper, Dupuytren, &c.) have generally disapproved of operations; even now, such methods of cure only are resorted to which are certain not to produce phlebitis.
3. Medicinal treatment diminishes the disease, but does not cure it. It is very useful as an adjuvant, when mechanical or surgical treatment is resorted to.
4. Mechanical treatment ameliorates the disease, if slight, and sometimes prevents its increase; but in complicated cases its utility is doubtful (except the method of Břeschet).
5. A suspensory bandage, combined with internal medication, generally supercedes the necessity of any operation.
6. Operation ought not to be resorted to until all internal remedies, with a suspensory bandage, have been tried; and only in cases where the disease prevents the patient from following his occupations, or produces a mental malady or exhausting spermatorrhœa.
7. An operation may be had recourse to when varicocele is complicated with hydrocele, or reducible or strangulated hernia; but in such cases that operation should be selected which at the same time will cure the disease.

8. In cases where the disease is stationary, not much developed, and does not occasion any inconvenience, operation ought not to be resorted to.

9. All operations ought to be abandoned when adherent hernia exists, or a general disposition to varices, pyemia, organic diseases of the testicles, tumours in the abdomen, extension of the varicocele into the abdomen (Ribes and Henry Langenbeck), and in all cases where varicocele exists only as an accessory disease.

10. The process of Breschet ought to be preferred to all other methods, ancient or modern, as the safest and the least likely to cause phlebitis.

11. Although mortal phlebitis has not yet been represented as having followed the seton of Fricke, acupuncture, subcutaneous ligature, etc., and numerous cures have been effected by these operations, yet, in all such operations the dilated veins are wounded, and though their dangers have been exaggerated, it is better to prefer those methods which do not wound the veins.

12. The subcutaneous ligature of the vessels ought to be preferred to the direct ligature after the ancient and modern method, to the *enroulement* of Vidal, to acupuncture, and to compression.

13. The seton and simple acupuncture ought to be rejected, not because they readily produce phlebitis, but because they do not ensure against relapse, and they do not always produce adhesive inflammation to a sufficient extent to obliterate the vein.

14. In slight cases, when the patient wishes to be relieved from his infirmity, and when varicocele is joined to hydrocele, incision of the scrotum, with denudation of the spermatic cord, can be performed; this tedious and difficult operation can be applied to nearly all varicoceles, if care be taken to prolong the consecutive treatment, in order that the process of cicatrization be slow, so as to form a large and deep "*tissu indolulaire*."

15. Mediate and immediate ligature does not prevent a relapse of the disease in the collateral branches.

16. When varicocele is complicated with reducible hernia, partial invagination of the scrotum can be tried, with a suspensory bandage and cold lotions, etc., to prevent relapse of both diseases. It is still better to keep the skin invaginated, with the aid of two or three sutures upon a cylinder, or with an insect needle; the patient should remain eight weeks in bed, and the herniary bandage should not be applied too soon.

17. A radical cure is not obtained without destroying the diseased part.

18. A radical cure can be obtained by obliteration of the vessels by phlebitis, by thrombus in the interior of the vein, or by plastic concretion.

19. By this treatment, the functions of the diseased vessels cease, and a new vascular network is formed in their place.

ART. 59.—*Punctures of the Scrotum in Hernia Humoralis.* By M. VELPEAU.—The trivial operation which he resorts to almost entirely relieves the pain, and produces no inconvenience. He gently grasps the inflamed part with his hand, so that the thumb and index-finger may thrust the fluid which the hernia vaginalis contains towards the surface. He passes the lancet, held like a pen, perpendicularly into the most fluctuating portions of the tumour, so that its point may enter the tunica vaginalis, and in this way puncture, two, three, or four times, the portion held in his hand. Generally, a little jet of fluid is discharged, and if any inflammation occur, a cataplasm is applied. In almost all the cases the pain and redness diminish at once, and the scrotum recovers its suppleness. These punctures may be made at any stage of the affection.

Gazette des Hôpitaux, No. 136.

ART. 60.—*On the Therapeutic Effects of the External Application of Aconitum Napel-us to Ulcers.* By JOHN GRANTHAM, F. R. S. C.—Those ulcers which Mr. G. has been in the habit of treating with the aconite are of a sphacelated and phagedenic character, occurring in patients of a gouty diathesis, where there is hypertrophy of the ligamentous tissue, and also those ulcers which often assume a sphacelated action over the region of varicose veins. The sphacelus is most superficial and cutaneous in the varicose limb, and deepest in true podagra: in the latter, com-

posed of an abnormal deposit (according to Wollaston's analysis) formed of the urate of soda, with a little of the urates of potash and lime, chloride of sodium, and animal matter. These ulcerations are very uncontrollable, and most acutely painful, very difficult to quiet, and still more tardy to heal: such has been his experience; and instead of finding the means answering the end, the converse has been the result, until he adopted the following mode of treatment, which consists in the application of the monk's-hood. The root, stem, and leaves should be collected when the plant is in flower, and dried in the same manner as recommended in the Pharmacopœia, i. e. "in the shade." An infusion should be made of the whole plant, as Mr. G. has found a decoction of the plant deficient in efficacy. The liquor should then be carefully strained off, and a poultice made of the fluid with bread, and applied as hot as the part will bear, and the heat maintained by covering the poultice with wadding, and changing the poultice more frequently. It is of no small importance in treating ulcers to keep up the natural temperature of the whole limb: there is a normal vitality which is essential to the healing of all wounds.

Mr. G. wishes it to be understood, that the above treatment will not at all times possess the same salutary therapeutic action on the part; but he is confident it will be found a very beneficial application in the cases he has named, after regulating the general health, by removing congestion of the brain, liver, or intestines. The effect of this dressing will be to enable the living part to throw off the dead matters and assume a healthy process. The aconite has been used internally by Stoerk in gout and rheumatism; and subsequent authors have written favourably of its effects when taken internally; but its use as an external application does not appear to have attracted the attention of medical practitioners.

London Medical Gazette, Aug. 6, 1847.

ART. 61.—*Subclavian Aneurism cured by Galvano-Puncture.*

By Dr. ABEILLE.

(*Monthly Journ. of Med. Science*, Jan. 1848.)

The patient, a female of 65 years of age, had been affected with aneurism of the left subclavian artery during eighteen months previously to her requesting the professional services of Dr. Abeille, principal medical officer in the military hospital of Givet (Ardennes). The tumour was situated between the *scaleni* muscles, and was the size of a hen's egg. It was the source of much suffering, sleeplessness, and ringing in the ears of the patient. Added to these, she had a continual fear of sudden death, which induced her to submit to the performance of any operation which might be thought necessary for her relief. M. Abeille, considering the difficulty and doubtful practicability of applying a ligature on the vessel between the aneurismal dilatation and the heart, determined to give a trial to the method of cure, by passing a galvanic current through the contents of the sac.

After performing a series of experiments on dogs, which assured him of the possibility of obtaining a favourable result, the patient was submitted to the following operation, on the 20th of February, 1847.

As soon as the patient was rendered insensible to pain by the inhalation of ether, two pair of needles were inserted into the tumour to the depth of an inch, and a strong galvanic current was established in connexion with them. At first, the effect on the patient was slight, but at the end of five minutes it required four assistants to hold her. The operation was continued for twenty-eight minutes. During this time the tumour was felt to be becoming gradually solidified, and before the withdrawal of the needles it had become perfectly solid, and pulsation was no longer felt in it or in the brachial or radial artery below. The limb became engorged, and the patient complained of its being benumbed and prickling. During the operation, the artery above the tumour was partially compressed by an assistant. After the operation, this compression was continued by means of an apparatus for five or six hours. In withdrawing the needles, two of them were removed with ease, but the others required a good deal of rotary motion, and some drops of blood escaped from the punctures. The patient maintained the same position in which she had been placed during the operation, for eight or ten hours afterwards. For forty-eight hours after the operation no pulsation could be de-

ted in the arteries of the limb. No œdema, however, ensued, and sensibility remained unimpaired. At the end of this time the radial artery began to pulsate, and the limb gradually recovered its natural temperature. About the eighth day the tumour appeared to be diminished in size, and this diminution progressed gradually, so that at the end of thirty-eight days nothing but a small, oval, firm tumour could be felt on pressing strongly with the fingers in the situation of the swelling. During the first few days which followed the operation, there was some threatening of cerebral congestion, which was relieved by blood-letting.

No symptoms of inflammatory action manifested itself, either on the surface or in the tumour. From the punctures of the two needles, which were withdrawn with difficulty, there was slight discharge of blood and matter for three days, but they were cicatrized a few days subsequently. The report is given seven months after the performance of the operation, and it is stated that there existed, at the end of that time, no trace of the aneurism; and in its place a hard, flattened cord, to which the skin adhered. Immediately above the situation of the aneurism, two enlarged collateral branches were felt pulsating strongly. The patient was in the enjoyment of perfect health.

Annales de Thérapeutique, Novembre 1847.

ART. 62.—*Excerpta from Dr. PORTER'S Lectures on Syphilis.—Syphilitic Ophthalmia.*
(*Dublin Med. Press*, April 7, 1847.)

Syphilitic inflammations of the eye, like all others, are either acute or chronic. In the syphilitic ophthalmia, I believe all the structures participate more or less, and therefore we may not form an opinion of the acute or chronic character of the disease, by the presence or absence of vascularity, cloudiness, pain, indistinctness of vision, or any other symptom, but by all, and the evidence they afford of the depth and extent to which important tissues may be engaged.

In its most acute form, the approach of the disease is insidious, although its progress, when once established, is commonly very rapid: often when questioned on the subject, the patient is made aware that he had experienced an indistinctness or imperfection of vision for some time before any trace of external disease could be observed. Mr Hewson notices an amaurotic condition of the pupil as occasionally occurring at the commencement; and, moreover, one of the most constant symptoms is a sluggishness of the iris, and an inaptitude in its answering the stimulus of light, before its colour is altered, or it affords other indications of being inflamed. There is often a sense of dull pain and weight in the organ, a susceptibility of fatigue, and an incapability of using it by candle-light long before any external appearance is remarked, and before the patient applies for relief.

The appearances of inflammation on the conjunctiva are very variable, sometimes exhibiting great intensity, and sometimes but very trifling; the vessels of the sclerotic coat are, however, more or less enlarged, and run in tolerably straight lines from the circumference towards the cornea, about three lines from which they break off into a number of minute branches, which form a vascular network among themselves, and disappear about half a line distant from its edge. Thus is formed between this vascular circle and the cornea, a ring of pale gray colour, apparently free from vascularity. This ring is broader and more observable in old patients than in young, and occasionally is not remarked at all, the network of red vessels coming closely up to the margin of the cornea.

The structure of the cornea itself is probably not engaged; but I think that it becomes more conical. Perhaps it would be more correct to say that it becomes more prominent; for it is the shape of the eyeball that appears to be changed, becoming egg-shaped, the narrow end of the ovoid figure being anterior. This is a symptom which I have remarked in many cases; and as they have almost always proved unfortunate, I regard it as indicative of some mischief amongst the deeper and more important structures of the eye—probably of the choroid membrane of the retina, and therefore likely to terminate unfavourably. The cornea, however, sometimes seems to be clouded, as if lymph had been deposited amongst its laminae; but this appearance is deceptive, and really proceeds from a turbid condition of the aqueous humour, as may be observed by looking at the eye in

profile, when the cornea itself is seen clear and cloudless, whilst the opacity is evidently placed behind it.

Like other symptoms of syphilitic ophthalmia, this varies in intensity: sometimes it is scarcely perceptible, whilst in other cases the opacity is so great as to prevent the condition of the iris from being accurately ascertained.

As it is from the iris the disease has taken its conventional name, the state of this organ has been most accurately observed and described. Almost immediately at the commencement of the disease, the motions of the pupil become dull and sluggish; soon this aperture is observed to lose its circular form and take some irregular one, generally appearing as if a portion of the circle had been cut away with a scissers. Sometimes the change of shape is more strikingly remarkable, being angular, and indeed assuming a variety of figures; and these deviations are always exhibited most clearly by applying belladonna to the eye. This symptom has been generally explained by supposing that adhesions had been formed between the uveal surface of the iris and the capsule of the lens, and doubtless such adhesion very frequently takes place. But I think the deformity is sometimes caused by lymph effused among the fibres of the iris itself, embarrassing their motions and preventing their contractions from being as free in one part as in another. When disease is formed, the pupil is always contracted; and as I cannot regard this condition as a state of rest, I look upon it as indicative of the existence of inflammation among the deeper structures, from which the light is thus sought to be excluded. The consistence and direction of the iris seem altered also. It is thicker and more gibbous, particularly at its pupillary margin, which sometimes appears to be pressed backwards towards the capsule of the lens, and then the iris is no longer a perpendicular plane, but a cone, the apex of which inclines towards the lens. At the more advanced periods, and especially when it is about to terminate unfavourably, we often observe the iris to form a conical figure, the apex of which takes a contrary direction, being pushed forward into the aqueous humour. This occurs in consequence of inflammation, swelling, perhaps of alteration of structure in the deeper parts; and is always the forerunner of disorganization of the eye, and consequent loss of vision. The change of colour in the iris is too remarkable to be passed over. It seems to be produced by the combination of the yellow tinge of the lymph with the natural colour of the part. Thus the brown iris is changed to a bright amber, the blue to a sea-green, and so on. Besides, when the eye is viewed through a magnifying glass of even moderate power, small bloodvessels, like hairs, are seen ramifying on its surface; and Mr. Hewson has remarked spots of ecchymosed blood, which, seen upon a green iris, give it a similitude to the red specks upon a bloodstone.

Such is a brief outline of the local symptoms of syphilitic ophthalmia, as they appear in the first stage; but along with these, as in other forms of the disease, some constitutional disturbance is to be expected. I have never seen fever antecedent to, or in combination with, venereal affections of the eye, unless we chose so to call that wretched irritable state which is often induced by intense pain, loss of sleep, and perhaps, also, by the fear of losing so invaluable a faculty as sight. When cutaneous affections are present (and they generally are so), there may have been those premonitory attacks of pain and fever that I have already described; and it must be considered fortunate for the patient if they are so; for the syphilitic character of the ophthalmia might be otherwise overlooked, and the eye actually lost in consequence. I have known an instance where a beautiful young lady lost her eye, from the nature of the disease having never been suspected; yet it was subsequently proved by the appearance of eruptions, and the taint was supposed to have been communicated by a kiss. I recollect a young professional man, whose sight, which must have been invaluable to him, was very nearly lost, from his having no kind of suspicion that it could be affected by venereal. He had chancres some months previously, which were treated on the non-mercurial plan, and healed; and he certainly had not the slightest idea that the sore eye was, or could be, a secondary symptom of the disease. The syphilitic ophthalmia, if allowed to progress without control or check, ends in the destruction of the organ; and this it will do under any treatment but the mercurial. I care not what the line of practice is. It may be antiphlogistic or irritating, soothing or stimulant, without mercury, all or any must be unavailing; and I wish to impress this

one practical fact upon you, because it must establish the necessity of being able to form a correct diagnosis.

The best possible diagnostic is the presence of some other unquestionable symptom, such as one of the eruptions; in fact, it is the only one that can be relied on in the first instance. Still, although any one symptom may be very uncertain, I think the assemblage of many of them taken together, along with the history of the case, and the general appearance of the patient, will not leave us long in doubt. Thus, if a patient had a primary symptom previously, for which mercury had not been used, or used insufficiently—if he was pale and haggard, subject to night-sweats, easily fatigued, and occasionally suffering from rheumatism—a very slight development of the symptoms of deep-seated ophthalmia would lead me to regard it as venereal, or, at least, to treat it as such. It has been stated that the pain is greater in the idiopathic iritis than the syphilitic. Like all other venereal symptoms, the pain is variable, sometimes slight, sometimes excessively acute; but, under all circumstances, if the case is really venereal, one characteristic is scarcely ever wanting, that of nocturnal exacerbation. As the evening falls, the pain begins to increase; it is shockingly severe during the night, and as morning dawns it gradually abates, and allows the patient the only short slumber he can obtain.—It is also stated that the intolerance of light is greatest in the idiopathic disease, and, perhaps, in some instances it is; but this symptom is extremely variable. The iris is more sluggish, its colour more completely changed, and vision more impaired in the venereal. With the assistance of all these, and even taking into consideration the collateral evidence, it is nevertheless possible to fall into error during the first stage of the disease. The second stage cannot be mistaken, as it is characterized by the formation of tubercles or abscesses in the iris.

Previous to the appearance of this symptom, there is usually an exacerbation of every other; the pain, both of the eye and the head, greatly aggravated; the vascularity of the organ greatly increased; the muddiness of the aqueous humour rendered more remarkable; and the vision more impaired. The small, hair-like blood-vessels on the iris are then seen congregating towards one spot, and soon a little pimple-like elevation makes its appearance, the base of which is red and very vascular, the apex yellow, as if it contained matter. When there is but one of these, it is usually placed on the margin of the pupil; when two or more, they may occupy any part of the surface of the iris indifferently. After some little time, these burst, and discharge a viscid, tenacious material, which is very slowly evacuated, which may occasionally be seen hanging in minute stringy flakes from the orifices of the tubercles, and which fall to the bottom of the anterior chamber, where it resembles purulent matter, and constitutes the venereal hypopion. When completely emptied, the small transparent cyst that contained the substance remains for three or four days, and when it is absorbed, a small cleft or fissure is observed in the iris at the spot it occupied. Several pathologists suppose these tumours to be abscesses, and their contents purulent matter; whilst others regard them as tubercles containing lymph; and if it be a point of any importance, I should think the latter the correct opinion, because the cyst, when burst, does not empty itself at once, or collapse, or diminish in size; and its contents are thick and ropy, instead of being fluid, like pus. But the appearance of this second stage is of immense importance, because it tells at once that the disease is syphilis, it being now the commonly received opinion, that these tubercles only occur in that form of ophthalmia—an opinion so generally true, that it may be almost universally received and acted on; but still, I fear, admitting of some few exceptions. But it is still of more importance as indicating that the eye is permanently injured—that both the beauty of the organ and the perfection of its functions are impaired forever. Even where mercury has been employed with all possible activity, although the contents of the tubercle should be absorbed, and its little transparent cyst subsequently disappears, still the pupil remains angular, contracted and distorted. The eye cannot admit a sufficient quantity of light; and, moreover, in too many cases, the retina does not seem capable of duly receiving its impression.

1. After the disease has existed for a fortnight or three weeks, the pupil is observed not only to have diminished, but so firmly fixed and immovable as not to be under the influence of belladonna; and a short time afterwards, this contracted pupil is found filled by a white or yellow spot, consisting of lymph, which remains

there whilst the patient lives. There is reason to believe that the entire of the uveal surface of the iris is covered with lymph, and the portion of it which lies in front of the capsule of the lens firmly adherent to it. Sight is now lost; nor is there a chance of its being ever recovered, except from that most uncertain of all operations, an attempt to form an artificial pupil.

2. Occasionally, and, indeed, not very unfrequently it happens that a patient shall have been put through a course of mercury, and have left the hospital, either in a state of convalescence, or of apparent recovery, and yet return after an interval of some weeks with the pupil closed, and really in a most hopeless condition. The iris has now a plain surface, unmarked by even the remnant of a pupil, or a speck, or a spot to show where it had been, or else, lines like radii are seen striking from a central point, no larger than the point of a pin, towards the circumference. There is no apparent deposition of lymph, as in the case already described. All this mischief has happened, and no satisfactory explanation of its cause can be afforded, unless that during all that time, a slow and chronic inflammation had been disorganizing and destroying the eye, and yet occasioning so little pain as to be unheeded or disregarded. In these cases, a patient can frequently distinguish daylight from darkness, and thus a delusive opinion of the soundness of the deeper structures may be created. In other instances, such faculty does not exist, and the patient is saved the pain of an operation, and the misery of disappointment afterwards; for I have never known an attempt to restore vision in any of these cases followed by even the smallest benefit. There is still another form in which syphilis may attack the eye. There is, or appears to be, a universal inflammation of the organ, commencing in, and principally confined to, the deeper structures, but eventually implicating all, and terminating in what Mr. Hewson, who first described the affection, has (perhaps erroneously) called an abscess.—It begins by a deep, intense, and agonizing pain in the bottom of the eye, in the temple, and, perhaps, in one side of the head, which pain is aggravated at night, at which time the patient's sufferings are indescribable; the eye, notwithstanding, exhibiting little or no alteration, to lead to a suspicion of the impending mischief. The next symptoms are an evident enlargement of the whole ball, with a fixed immobility of the iris, which appears pressed forwards into the anterior chamber, and whether contracted or dilated, is wholly insensible to the stimulus of light. Perhaps this might be termed the first stage of the disease, and perhaps also, up to this period, if might be possible to arrest its progress, and save the eye by a rapid exhibition of mercury; but the nature of the malady is not suspected, and the opportunity, if it really exists, is allowed to pass away. Soon symptoms of conjunctival and sclerotic ophthalmia make their appearance—vascularity, increased secretion of tears, pain, and a sensation as if a grain of sand, or other irritating substance, had been admitted under the palpebræ; and at this period, on looking deeply into the eye, a yellow opaque substance is generally perceived deeper than the iris, and as if fixed in the vitreous humour. The next step is that the eye assumes somewhat of the appearance of an abscess. A yellow spot is seen on the sclerotic, external to the cornea, which is soft and prominent, and presents precisely the characters of an abscess about to burst. Occasionally, even in the same eye, a similar demonstration of pointing is observed in the iris, as if the matter was about to make its way into the anterior chamber. At length, after intense and protracted suffering, the swelling bursts in one or both these situations, and a mass of yellow tenacious lymph is pushed forwards, but not discharged, neither does the eyeball collapse. This lymph comes away in flakes and strings, is detached very slowly, and in proportion as it escapes, the pain abates; but the eye falls down within the socket, and not only is vision lost, but a very unsightly deformity remains, that can only be palliated by the closure of the lids, or the adaptation of an artificial eye. It is well for the patient that this disease never attacks both eyes at the same time, and seldom passes from one eye to the other: and thus, although condemned to lose the one by a painful, harassing, and nearly incurable affection, he is in less danger of total blindness from the disease previously described, than what is usually called iritis.

Antiphlogistic measures, bleeding, the use of internal medicines, collyria, ointments, or other external applications, which might be useful in simple inflamma-

tions of the eye, are totally ineffectual in this. They cannot be relied on for a cure for the specific disease.

I have often had occasion to remark the great apparent superiority of ophthalmic surgery as conducted in a dispensary, to that practised in an hospital, and even in institutions where wards are set apart for diseases of the eye. Every day's experience tends only to confirm the opinion.

ART. 63.—*The Treatment of Onychia*.—Onychia forms about the root of the nail, detaches the nail from its living connexions, but still the parts are not robbed of the power of keeping up its growth. This is a most painful state of things; and, in the usual method of treating the complaint, a most torturing operation is resorted to, that of cutting or tearing off the portion of the nail. All this pain the patient may be saved, by first getting the finger as quiet as possible, by soothing measures; and when this is done, to insinuate a shred of lint, by means of a probe, hammered flat, so as to pass this small portion as far as it can go between the sore structure and the surface of the nail; and if this piece of lint be moistened with a weak solution of nitrate of silver, the beneficial effect will be apparent in twenty-four hours. The sores will heal quickly, and the pain will be subdued. The simple lint should be kept insinuated for some time, even after the sore is healed. The nail will grow to its usual length, and the hollow sore will be filled up before long.

Vincent's Surgical Observations, 1847; p. 235.

ART. 64.—*On Fracture of the Clavicle*. By M. VELPEAU.—Very unnecessary fears have arisen from the bone uniting not quite regularly. It is true it cannot always be effected without some slight deformity; but this is of no consequence in men, and even in women is only seen in such as are of spare make. This need not take place when the fracture is situated in the external third of the bone, the fragments being maintained *in situ* by the ligaments and muscles, so that a bandage is not even necessary. When the fracture occurs within the inner two thirds, there is always some displacement, in the adult, although this does not take place in very young children. The most complex apparatus is in nowise preferable to the following simple plan of treatment. A bandage is carried from the armpit of the sound side, across the back and shoulder, to the fractured clavicle. The patient's hand is brought up to the sound acromion, so as to raise the elbow as high as the sternum, the shoulder being thrown backwards and upwards. While an assistant holds the limb, the bandage is repeatedly passed over the anterior part of the arm, and brought round by the sound armpit; and over this is passed one well moistened with dextrine, so as to produce an inflexible mould. The bandage need not be put on for four or five days after the accident, and in from a week to a fortnight the fracture will be sufficiently firm to allow of its removal. It is an error to suppose that a patient cannot raise his arm to his head when his clavicle is fractured. He believes he cannot, and is prevented from trying by the pain it causes; but if you insist upon it, and that not doubtingly, you will find he can accomplish it. I have not seen six exceptions in twenty years.

British and Foreign Medico-Chir. Review, from the Gaz. des Hôp., No. 115.

[Mr. Vincent states that he treats all fractures of the clavicle by merely placing the patients on flat beds, by which the parts assume and preserve their natural position. Bandages, he says, seem to do little good commonly, and are not required if the patient keeps his bed. A cabman broke both clavicles at about the middle part; Mr. Vincent merely placed him in bed. In three weeks, both bones were united, and without deformity, although there had been considerable displacement at first.—*Surgical Practice, 1847, p. 42.*]

ART. 65.—*Case of Axillary Aneurism for which the Subclavian Artery was tied with success*. By JAMES SYME, Esq., Professor of Clinical Surgery in the University of Edinburgh.

(Monthly Journal of Medical Science, October 1847.)

A gentleman, æt. 34, applied to me on the 25th of July, on account of an axil-

lary aneurism of the right side. It was of a large size, filling the axilla, and pressing forward the pectoral muscle so as to be distinctly perceptible through the clothes. The patient stated, that about sixteen years ago he had fallen down a stair, and, by an involuntary effort to save himself, had seized the railing with his right hand, and consequently sustained a very severe wrench. With the exception of some pain and the ordinary uneasiness attending such an injury, he had not afterwards suffered any noticeable inconvenience further than an occasional difference of temperature in the hands, until about ten months ago, when he began to suffer from pain in the little and ring fingers, which gradually became almost constant. More lately, the axillary tumour had attracted attention; and on the 29th I tied the subclavian artery, where it emerges from the scalenus anticus, by a single silk ligature, drawn with all the tightness in my power. No inconvenience whatever was experienced; the ligature separated on the fifteenth day, and the patient, at the end of another fortnight, returned home, perfectly free from pain, and with hardly any perceptible remnant of the tumour.

In performing the operation, I made an incision along the clavicle, so as to extend over the sterno-mastoid and trapezius muscles, and another from the centre of this upwards, parallel with the edge of the latter muscle. The dissection was conducted entirely by the knife and forceps. The needle was passed under the artery with its convexity upwards, and the ligature was tied by the unaided effort of the fingers. It has been advised to pass the needle with its convexity downwards, or towards the clavicle, with a view to protect the vein from injury. But this vessel is not at all in the way, while the cervical nerves are so situated in regard to the artery, as in general to render it nearly, if not quite, impossible to convey the ligature from below upwards. It has also been advised to employ the assistance of some mechanical contrivance for tightening the knot; but I feel persuaded that the thread will always be within reach of the fingers, and may be more safely tied by them simply, than with the intervention of any instrument.

ART. 66.—*The Treatment of Subcutaneous, Submammary, and Parenchymatous Abscesses of the Breast.* By M. VELPEAU.

Subcutaneous inflammation of the breast proceeds much as an ordinary phlegmon. When the abscess is formed between the mamma and the chest, the swelling is considerable, the breast raised up; but after an incision the cure usually takes place rapidly. But when the phlegmasia invades the substance of the breast itself, it is rare to find only a single abscess produced. We sometimes see 10, 20, 40, or 50 manifesting themselves in succession. An instant's reflection will show that this result is a natural consequence of the anatomical disposition of the inflamed tissue. The glandular parenchyma consists of different globules, each of which constitutes a little organ having its own function, and which may become heated and irritated under the influence of lactation. Each lobule does not attain at the same time the same degree of irritation. One first inflames, then suppurates, and constitutes a first abscess; a neighbouring lobule then becomes affected, and, in its turn, forms an abscess; and so it may go on with all of them, until we have as many successive abscesses as there are lobules.

This distinction of abscesses of the breast into at least three orders, is of the highest importance; and if we do not adopt it, our ideas upon the subject will be but very vague, and devoid of all precision as respects prognosis and treatment. Parenchymatous abscesses may last four or six months, or a year even, according to the rapidity of their succession and their number. The subcutaneous abscess lasts only as long as an ordinary phlegmon; and the submammary abscess has not the long duration of the parenchymatous one.

Each of these has its special treatment. We may endeavour to procure the resolution of *subcutaneous abscess*, and that by ordinary means; and if suppuration occurs, we open it promptly, in order to avoid the burrowing of the pus among the tissues. *Submammary phlegmon* should be treated especially by general measures, and leeches around the nipple. Topical applications are of little use, as they are separated from the centre of inflammation by the whole substance of the mammary gland. When an abscess is formed here, its prompt evacuation is desirable; but the perception of fluctuation is difficult, for the pus is surrounded by

a large mass of tissues, and the thoracic parietes have not fixity enough to serve as a point of support. Nevertheless, you may recognise the existence of pus by the following characters. 1. An acute phlegmon rarely exists more than seven or eight days without suppuration taking place. 2. The breast is raised up like a sponge, and if we press upon it, it seems as if it were lying on a bladder full of fluid. 3. We find the breast surrounded by a kind of inflammatory oedema. Having recognised the pus, we should let it out promptly, or we expose ourselves to seeing it traverse the gland, and form one of those abscesses I call *shirt-buttons*. These abscesses, moreover, have a mischievous influence upon the chest, and may lead to purulent pleurisy. They may, too, penetrate into the cellular tissue to a distance, and give rise to a diffused phlegmon. The incision should be made into the most dependent part, the place of election being below and at the outer side of the nipple; but in some cases, a projecting point of the abscess indicates the place at which the opening should be made. It is always advantageous to make the incision towards the circumference of the breast, because the gland itself is not touched, and its weight tends to expel the pus. The bistoury should be directed almost parallel with the thoracic parietes, so as to slide it in between these and the mamma. The danger of such incisions is not so great, there being no large arteries to fear. *Parenchymatous phlegmon* requires an energetic and varied treatment—bleeding, purging, and the so-called anti-lacteal medicines. When pus forms, which is almost always the case, topical applications and incisions seldom prevent the successive implication of the lobules. Nevertheless, there is some advantage derived from the prompt opening of the abscess, *if the patient agrees to it*, for you should recollect, that in practice, if you open one abscess and another form, she never fails attributing these to your proceedings. These details will, I think, suffice to show you how important it is to distinguish the different abscesses of the breast, and to explain to you the confusion which prevails in the minds of some surgeons as regards their treatment.

[Chelius refers to the three orders of abscesses of the breast, but we have nowhere seen the anatomical distinction and the differential treatment so clearly defined.]

The Medico-Chir. Review, Oct. 1847; from the *Gaz. des Hôp.*, No. 89

ART. 67.—*Spermatic Discharges: their Effects and Treatment.*
By BENJAMIN PHILLIPS, Esq., F.R.S.

(*Excerpta from a Paper in the London Medical Gazette*, March 24th, 1848; p. 489.)

I have no means of knowing the amount of Lallemand's experience at the time he concluded his work; but the cases contained in his treatise amount to 115. My own experience very much exceeds that: I have been consulted in nearly 700 cases. I have memoranda of 623. He gives the particulars of 115 cases of involuntary discharges; of these, 20 were, it is said, the result of gonorrhœa, 10 of skin diseases, 13 of rectum complaints, 14 of masturbation, 21 of venereal excesses, 21 of various congenital defects of the genital organs. Of these cases he seems to have cured about 90, and to have failed apparently in 8 or 9 cases. He seems to have cured 55 mainly by the use of lunar caustic. He appears to have cured 34 by other means, caustic having failed, or it was not used.

Of the 623 cases (in Mr. Phillips' experience) only 33 had sustained any evil influence than that which was fairly attributable to great mental depression, and that depression was commonly the result, not of the extent of discharge, but of the anticipated consequences of its continuance—those anticipations being, in most cases, derived from the perusal of such books as are usually circulated on the subject. Of the 623 cases, 581 were under 25 years of age, a pretty conclusive proof that time and accident do much to bring these cases to a favourable termination or to death: and I have no reason to think that many of these cases end in the destruction of life. In 530 instances the patient had either never indulged in sexual intercourse, or he had more or less completely abandoned it, generally from inability to continue it. In a large number of instances, masturbation was admitted; in many cases it did not seem to have been carried to any considerable extent; in a majority of cases, it was said that the practice had been discon-

tinued for months, or even years, before the existence of the present complaint. In 597 cases the discharges did not occur more frequently than twice a week. In 26 instances they occurred more frequently than that. In a great majority of cases, they only happened at night, during dreams, and the patient was conscious of their occurrence. In 27 cases, discharges were now and then observed to occur, during the straining at stool, and in some instances after the passage of urine; and in these cases I have observed that the mental depression is much greater than in others, because quacks paint the consequences of such discharges in much gloomier colours than those which are accompanied by orgasm. In 16 only of my cases had the patient ever suffered from gonorrhœa, in only one instance could I make out any connexion between any skin disease and the discharges. In only one instance could I satisfy myself that the discharges were kept up by irritation excited in the rectum by ascarides. In only 4 instances could they be referred to venereal excesses.

It will be understood, then, that in my experience the so-called involuntary discharges have not been attended with such disastrous results as in that of Lallemand. When I have witnessed these injurious results, I have been convinced that the discharges have usually been voluntary, that they have been more or less completely owing to masturbation, which the patient continued to practise. These I have found the most difficult to manage, for neither lunar caustic nor moral reflections will master the habit here, although all such cases in Lallemand's practice yielded to nitrate of silver. The most certain remedy appears to me to be sexual intercourse. I constantly tell patients that if the habit of masturbation be continued, they had better not submit to treatment, for it will be of no avail.

I have not observed either the almost certain good effects, or the after-trouble, to which Lallemand alludes when speaking of the application of lunar caustic; at the same time I have no doubt that the remedy is a valuable one.

It is singular how uniform is the description of symptoms given by patients in these cases. There are few who do not complain of loss of strength, loss of memory, and confusion of mind; there are many who complain of pains in the loins and palpitation of the heart; but in a very few cases are these complaints not more imaginary than real. The alleged loss of strength rarely interferes with the ability to perform ordinary duties. The loss of memory is real enough, but it is simply that the preoccupation is so complete that nothing but the circumstance of the malady makes any impression on the mind; and the palpitation of the heart, unless under nervous excitement, is by no means of common occurrence.

My own experience has convinced me that the only certain means of relief in most cases is to be found in moderate sexual intercourse; it usually puts an end to masturbation, and the activity of the organs is most certainly mitigated by this means. I always feel a difficulty in recommending the remedy, because I cannot reconcile it to my conscience to advise a course of profligacy; and therefore I advise patients to marry, but, as may be supposed, a very common answer is, that it is inconvenient. It is never prudent, where a man alleges that his sexual energy is lost, to advise experimental connexion, because with the misgivings in his mind, he will almost certainly fail, and we shall in this way only add to his distress. If it be tried at all, some permanent connexion should be formed, and he should be prepared to expect many failures, but a single success occurs, and the phantom which haunted his mind is at once dissipated.

In most of the cases, however, which have come in my way, sexual connexion has not been attempted, and, either from fancied inability to accomplish it, or from an objection on other grounds, it will not be attempted. These cases are difficult to manage, and in all probability the discharge will persist in spite of all that may be done; and all that remains for us is to endeavour to convince the patient that when they do not occur oftener than twice a week, years may pass without any weakening influence on the constitution being exerted by them. Even when all evil habits have ceased, that is to say, when masturbation is no longer practised, and lascivious images are carefully and completely excluded from the mind, these discharges will often persist for an indefinite time, apparently by virtue of the activity which has been set up in the organs, and which is long maintained by habit.

There is yet another class of patients who, although they suffer occasionally

from involuntary discharges, complain principally of the too rapid ejaculation which occurs when connexion is attempted, happening often before complete erection takes place. For the most part I have found such persons to possess very excitable temperaments, and they make these attempts unfrequently, although a species of sexual excitement is kept up. Again, in these cases the remedy is to be found in a regular and not too frequent relief to the tension which is maintained in these organs. I have rarely known a case where such a plan has been faithfully followed without complete relief; but I have, in such cases, occasionally observed the good effects of cauterization, which, in them, seems to act by lessening irritability.

Respectable practitioners often do harm by exciting hopes of amendment or cure from the employment of tonics and stimulants, such as various preparations of iron and cantharides; they are very rarely of any use, and after persisting in such means, often for months, the patient is doomed to disappointment and increased despondency. The truth is, it is not debility which we have to do with, in most of these cases, but an increased activity of the secreting organs, and relief is most certainly obtained by periodically relieving the seminal vesicles from the distension to which they are subject.

The cases which are improved by local applications, whether of lunar caustic or any less energetic agent, are a small minority. In the early part of my experience, and following in the train of Lallemand, I applied lunar caustic to the urethra in most cases, and in many with seeming benefit to the patient; in some with complete relief to the symptoms, but in others the discharges continued unchanged.

The rule upon which I then acted I now follow; that is to say, I do not usually employ lunar caustic when there is no other indication of morbid action than is furnished by the occurrence of these discharges. Where there are increased sensibility, and chronic discharges, I often apply caustic upon the portion of the canal which appears to be the seat of morbid action, and often with great success. Where there is contraction of the canal of the urethra, I endeavour to overcome it by the use of dilating bodies; and when the discharges are kept up (which is in my experience very unfrequently the case) by such contractions, relief is sometimes obtained. But there are cases in which I have applied the lunar caustic, although there was no reason to believe in the existence of any morbid action on the mucous surface of the urethra. The truth is, that many persons present themselves under profound despondency. Many means have been employed and have failed; it is soon evident that they are not content to take advice only, but they are extremely anxious to have something done; and I have on many occasions applied caustic, because the patient had great faith in it, and would not be satisfied unless it were employed. In such cases I have first endeavoured to dissipate from the patient's mind the fears by which he was beset. I have applied the remedy, and recommended the patient not to expect any very decided relief for two or three months. I have had no hesitation in applying caustic under such circumstances, because, with all my experience of it, I have never known any mischief to follow its use, except in two instances, where there was retention of urine in the evening of the day.

Whenever I apply caustic, I seek to determine a discharge which persists for twenty-four or forty-eight hours; if that effect is not produced, the full effect of the remedy is not obtained. If there be reason to think that a chronic discharge be kept up by inflammation or by strictures, and that the spermatic discharges are dependent thereupon, they must be got rid of before we can hope that the spermatic trouble will cease; and even when they are got rid of, habit may cause it to persist almost indefinitely.—Vide the *Report on Surgery* in the present volume.

ART. 68.—*Removal of the Parotid Gland.* By Professor PANCOAST. Reported by ELLERSLIE WALLACE, M.D., Demonstrator of Anatomy in Jefferson Medical College.

(*Medical Examiner*, July, 1847.)

The patient was a woman, æt. 60. The disease commenced upwards of ten

years ago as a swelling of the gland, of an acute character, simulating ordinary parotitis. After the acute symptoms had passed away, the gland did not return to its normal size, but remained a little enlarged for a few years. It then began to increase in size. Its growth increasing more rapidly within the last year, and being accompanied by shooting pains about the face and forehead, she came to Philadelphia to seek surgical aid, and, consulting Dr. Pancoast, gladly consented to an operation in hope of a cure.

The tumour was on the right side of the face, nodulated and irregular in its external aspect, and appearing about half the size of a man's fist. It extended from a little above the zygoma to a short space below the angle of the jaw, passing over the greater part of the masseter muscle, and backward under the ear, so as to elevate and press posteriorly the anterior border of the ear; it likewise nearly surrounded the auditory meatus, and also overlapped the insertion of the sterno-cleido-mastoid. When grasped firmly, it was found but slightly moveable, deeply fixed, and firm in its texture, except at its upper part, where there seemed a local point of softening. None of the surrounding lymphatic glands seemed at all involved. The complexion of the patient was somewhat straw-coloured, though she appeared vigorous for her age.

Operation.—The patient was placed on her left side, with the head and shoulders elevated, and her head well turned towards the left shoulder. The tumour was exposed by a single incision, shaped something like the italic *f* reversed; it was commenced above the top of the ear, and carried forward and downward to near the centre of the tumour, then in a direction sloping slightly backwards to just below the lobe of the ear, when it was again directed forward, downward, and nearly vertically, leaving a concavity in front, and terminating about an inch and a half below the base of the jaw, and somewhat within the inner edge of the sterno-mastoid. The dissection was then commenced by reverting the flaps so as to expose the tumour, and continued by separating the diseased mass first above, then posteriorly, next anteriorly, and lastly below. Some vessels bled from the surface of the tumour, as well as some small arterial branches from the flap, but by pressure of the fingers, and the application of a few ligatures, all material hemorrhage was arrested.

Dr. Pancoast now sought for the external carotid artery, with a view of placing a ligature upon it near its entrance into the tumour: this required a slight increase in the length of the first incision, as, from the size and attachments of the tumour, it was somewhat difficult to reach the vessel. It was isolated, however, with its vena comes, and the two were raised on the director, and Physick's aneurismal needle armed with a ligature passed under them along the groove in the director, and both secured in the loop. From this moment to near the conclusion of the operation, there was very trifling hemorrhage. The vessels were now cut beyond the ligature, and while strong traction was made upon the tumour, Dr. Pancoast detached it from its connexions to a still greater distance below. The patient complained much of the pain caused by the upward traction. The tumour was next loosened to a greater extent above, as well as posteriorly and anteriorly. The central part of the tumour, deeply seated, was the last part detached; and a strong jet of blood, by retrogression from the internal maxillary artery, as the final cuts were made, required that a ligature should be applied to the divided vessel. This ligature, with two on smaller bleeding vessels, and the one on the carotid artery, were all that were left at the conclusion of the operation.

A small piece of diseased structure being discovered after the thorough cleansing of the wound, near the bottom of the cavity, it was removed by the handle and blade of the scalpel. As far as was possible, the handle of the scalpel was used during the operation, but for the most part the attachments were so firm as to require the cutting edge. The constant firm traction directed by Dr. Pancoast, was of much value in facilitating and in hastening the extirpation of the diseased mass.

The depth of the wound was very great, as well as its extent. It was six inches in length, exposing the greater part of the masseter muscle; a part of which being adherent to, was removed with the tumour, and a small portion of the buccinator was also laid bare. The under surface of the internal pterygoid was exposed, as well as the entire ramus of the jaw posterior to the masseter muscle, the ligaments

of the temporo-maxillary articulation were also laid bare on their outer, lower, and inner surfaces, and the condyle could be seen sliding forward in its socket when the mouth was opened. The finger being placed on the styloid process of the temporal bone (which was exposed its whole length), and carried downward, the contraction of the styloid muscles could be distinctly felt. A part of one of the styloid muscles, which was embraced by the tumour, was removed with it. The insertion of the sterno-cleido-mastoid into the mastoid process was also plainly shown. There was paralysis of the side of the face, and of the orbicularis oculi, induced by the division of the portio dura—this nerve having been removed with the diseased structure. The lips of the wound were approximated by suture, and pressed down into the deep cavity by a compress of lint spread with urate; another compress was laid over the entire length of the incision, and strips of adhesive plaster applied to keep the sides of the cavity in contact. The patient was a good deal exhausted at the close of the dressing, and took about an ounce of wine in some water; reaction soon came on, and she pronounced herself comfortable.

Dr. Pancoast invited me to visit the case after the operation, and upon no occasion has there been any unpleasant symptom, either constitutional or local. Her appetite has been good, she has rested well, had no fever nor local pain, nor soreness enough to induce any complaint. We examined the wound on the fifth day after the operation, and the upper and lower part, for three-fourths of an inch, had united by first intention, and so favourable was its appearance, that the centre, where the first compress had been placed, was not disturbed. On the tenth day the first entire dressing was made, and on the twelfth the second. There had been no discharge of matter, except a little that hardened on the ligatures, and there was scarcely any odour from the wound. Union by first intention has been complete, closely embracing the ligatures, the integuments being sunk down in the deep fossa left by the removal of the diseased gland.

Since the fifth day from the operation, the patient has dressed and sat up daily.

[Although removal of the parotid has been deemed unjustifiable, and, as above illustrated, is a difficult and dangerous operation, still it has been frequently performed with success. Mr. South states that he has performed *eight extirpations* without any untoward accident, and refers to cases related by Schmidt, Beclard, Chelius, Kirby, and others.]

ART. 69.—*Turpentine as a Remedy in the Hemorrhagic Diathesis.*

By J. P. VINCENT, Esq.

(*Observations on some of the Parts of Surgical Practice, 1847; p. 216.*)

Some years ago a youth was brought to Mr. Vincent, who was passing blood in his urine. He ordered some draughts, with a few drops of the oil of turpentine. The bleeding quite stopped before the end of the second day, and did not return. About a twelvemonth afterwards he was brought again, having cut his finger slightly; it had continued bleeding for some days. He gave him turpentine again; it stopped in a day or two. Not long after he came a third time; he had a tooth extracted, and it had been bleeding for several days. The turpentine was had recourse to, and the remedy soon acted in the same salutary way. Mr. Vincent has several times been called in on account of hemorrhage when teeth have been extracted, and has never seen the turpentine fail in this, nor in other similar cases of hemorrhage. Not only is the administration of this medicine by the mouth so efficacious, but the local application is also powerful in stopping bleeding; and happily so, as it anticipates the time the other method requires for effecting the purpose. At all events, it is a powerful auxiliary. The use of it is to be made with the injunction that no coagulum should be allowed to remain upon the part. Mr. Vincent says he was on the point one day of leaving London for a few hours, when he was called upon to a case of bleeding from the socket from which a tooth had been extracted, and that in considerable quantity, the subject being a weakly, middle-aged female. His confidence was such in the power of this means, that he left instructions to clear away the coagulum, if any, and apply turpentine to the part, and he ordered draughts of it to be taken, and went away without waiting to see the effect. He learned afterwards that the bleeding had soon stopped, and the medicine, internally, was not wanted.

ART. 70.—Case of Popliteal Aneurism cured by Compression in four days. By Mr. CUSACK.—The following is one of the most encouraging cases which has yet been recorded. A man of 30 years of age, of stout make, but not very healthy aspect, was admitted into Steeven's Hospital on the 14th May last, under the care of Mr. Cusack. An aneurism existed on the right ham, about three inches in length, and its breadth limited on each side by the hamstring tendons. The disease had originally been perceived two months previously, at which time, while walking, he suddenly felt "something give way" in the situation of the right popliteal artery; and on examination a pulsating tumour was found to exist, of the size of a pigeon's egg. On his admission into the hospital he complained of little more than an uneasy stiffness about the knee. The collateral branches around the knee-joint were very large, particularly one which crossed the internal condyle, fully equal in size to the radial artery.

After a few days' rest in the horizontal posture, during which time the patient took ten drops of tincture of digitalis thrice a day, pressure was made by a suitable instrument on the femoral artery as it passed over the pubes. A degree of pressure was exercised sufficient only to diminish, without entirely interrupting, the current of blood through the vessel. When the pressure became painful, the compressing pad shifted an inch and a half lower down on the artery, and by alternating the pad upon these two points, uninterrupted compression of the artery was maintained.

The compression was commenced on the 22d of April. On the 24th, the tumour had increased greatly in solidity, and the pulsation was scarcely perceptible. Compression was now augmented, so as to remove altogether pulsation from the tumour; and on the 26th, on taking off the instrument, pulsation was found to have ceased entirely.

He was kept in the hospital for a month afterwards, when he could walk very well, and flex the knee perfectly. The tumour in the ham was still to be felt, but hard, and greatly diminished in size.

Dublin Quarterly Journal of Med. Science, Aug. 1847.

ART. 71.—Case of Exostosis of the Tibia, and Operation. By J. SEDDOM, M.D., F.R.C.S., &c., lately one of the Surgeons to the North Staffordshire Infirmary.

[Prov. Med. and Surg. Journal, Feb. 10, 1847.]

In this case an agricultural labourer, aged 21, about two years and a half ago, observed what was first called a "lump" in the upper and back part of the right leg, by uneasiness in the part, which was attended with occasional numbness in the ankle. There is no very marked swelling of the part, but the muscles of the calf, on examination, seem to be stretched, and a hard tumour can be felt firmly attached to the upper and posterior part of the tibia. A pulsating blood-vessel can be traced on the outer edge of the tumour. The patient thinks the swelling may have been caused by leaping. A free incision, commencing at the lower part of the popliteal space, and within the inner hamstring, was extended about four inches downwards, on the inner edge of the gastrocnemius muscle, and parallel with it. This was continued across the muscle, and carried a little upwards, so that the cut had somewhat of a hooked appearance. By this means a flap was formed of the muscles of the calf, which was turned upwards; two bleeding vessels were tied at this stage. The tumour now became apparent, covered only by an expansion of muscular fibres. Having drawn aside the vessels and nerve, by means of a copper-hooked spatula, the muscular fibres were divided so as to expose the tumour clearly. It had an extensive attachment to the tibia, and overhung its inner edge, so as to fill up the interosseal space at this part. By means of a chisel and mallet applied to its inner edge, it was partially divided; the chisel was then worked into the internal structure of the tumour, with the hand alone, and by raising the handle of the instrument. A few projecting points of bone were removed by the bone-nippers. Some lint having been applied to the bottom of the wound, the muscular flap was laid down, and a piece of lint placed over it; and this being retained by a bandage loosely applied, the patient was carried to his bed.

The operation was effected with much less difficulty than was anticipated. The

tumour was as large as a middle-sized potato, had a nodulated appearance, and a flesh colour, having somewhat the resemblance of large granulations, but this appearance was only superficial; internally it had a cancellated bony structure. The diameter of its base was nearly three inches.

The patient was discharged cured.

The difficulties of the operation which presented themselves to myself and colleagues, before it was undertaken, were, first, the danger of wounding the vessels and nerve, passing from the popliteal space; secondly, it was thought possible that the tumour might extend so far upwards as to endanger the opening of the capsule of the joint; and lastly, if the excrescence were of a firm texture, there might be considerable difficulty in detaching it from the bone. However, as it was considered that amputation of the limb would soon be required, if the tumour continued to increase, it was decided to undertake its removal, having first apprised the patient of the difficulties and danger of the case. I had no apprehension that the disease was of a malignant character, as the patient had a healthy aspect, and his general health had always been good.—*On the Treatment of Exostosis*, vide "Half-yearly Abstract," Vol. V, p. 103.

ART. 72.—*On the Treatment of Chronic Inflammation of the Bladder by Injections of Nitrate of Silver.* By ROBERT L. M'DONNELL, M. D., Licentiate of the King and Queen's College of Physicians, and of the Royal College of Surgeons, Ireland.

(Condensed from the *British American Journal of Medicine*.)

Some years ago, Mons. Lallemand, the eminent professor of Montpellier, discovered, accidentally, the great value of nitrate of silver in chronic inflammation of the bladder, and the utility of his plan was shown in a paper by Dr. O'Bryen, in the fourteenth volume of the "Dublin Medical Journal." But this gentleman does not appear to have had any personal experience of its employment, and, moreover, he confines his remarks to the use of the solid nitrate, the form preferred by Lallemand.

Having met with some cases of chronic cystitis that resisted general treatment, and bearing in mind the great success which attended the application of nitrate of silver in substance, in the hands of Lallemand, I determined to give the remedy a further trial in the form of solution, and the success I met with has far surpassed my most sanguine expectations; I have now no hesitation in stating, as far as pure uncomplicated chronic inflammation of the bladder is concerned, that the opprobrium has been removed from surgery, and that we do possess a method of treatment followed by a greater amount of success than usually attends remedies employed in diseases of so severe and intractable a nature, and infinitely greater than attends the use of any remedy in a disease hitherto considered by the first authorities as incurable.

In proof of this assertion, I shall adduce four cases, two of which occurred in my private practice, and the other two were witnessed in the wards of the Montreal General Hospital, by a large and intelligent class. I could adduce others, but these I bring forward sufficiently support the views I am anxious to inculcate.

CASE I. A gentleman consulted me last February, under the following circumstances. He had suffered for some months from inflammation of the bladder, marked by frequent desire to pass water, accompanied by heat and scalding, violent straining, pain in the region of the bladder, above the pubis and in the perineum, and a constant feeling of heat and weight in the lower portion of the abdomen. These symptoms gradually increased in severity. The urine became at first bloody, and afterwards purulent, and the desire to void it became so urgent that it had to be yielded to at least every fifteen minutes; the discharge of the fluid being followed by pain and scalding at the neck of the bladder, and along the course of the urethra. His general health became impaired, and his sleep so frequently disturbed, a haggard and anxious expression of countenance, and extreme irritability of the system, were soon established.

When he first consulted me, fully one-half of the fluid passed from the bladder was pure pus; and after repose, a deposit of blood-globules were found to intervene between this and the supernatant urine—the latter being highly alkaline,

fetid, and albuminous. Examined microscopically, it exhibited some scales of nucleated epithelium, a large deposit of triple phosphate in prismatic crystals, pus, and blood-globules. There was no pain in the loins or along the ureters. He had a stricture of long standing, about one inch from the orifice of the urethra. In addition to the above characters, the urine was frequently mixed with tenacious masses of lymph, varying in length from half an inch to an inch, and entangling a quantity of earthy matter, very frequently obstructed the passage of the urine through the stricture, and required to be broken up and squeezed through by the pressure of the patient's fingers.

Having dilated the stricture, so as to allow a large-sized catheter (No. 11, Weiss) to pass, on the 17th of February I injected into the bladder a lotion composed of eight grains of lunar caustic, two drachms of tincture of hyoscyamus, and four ounces of distilled water.

The injection caused hardly any inconvenience, except that of inducing a strong desire to empty the bladder, which was prevented by compressing the penis, until the fluid had been in the bladder for about one minute, when it was allowed to escape. The next day the patient stated that he was somewhat better, but the quantity of pus and blood was not, however, much diminished, and the flakes of lymph were more numerous and larger than before. Although he continued improving, yet, as the amendment was not as rapid as I anticipated, injection of the viscus was again resorted to on the 5th of March. On this occasion, the quantity of caustic was increased to sixteen grains in the four ounces of distilled water, and the hyoscyamus was omitted. A decided improvement immediately followed; the frequency of making water was greatly diminished; instead of requiring to be voided every fifteen minutes, the bladder could retain its contents for more than two hours at a time, and the quantity of pus had greatly decreased. An injection, of the same strength, was again employed on the 28th of March, and with happy results. The urine could now be retained for three, or four hours, was passed without pain or scalding, was clear and transparent, and, to the naked eye, free from pus; but when examined microscopically, a deposit of pus-globules and some epithelial scales were perceptible. On the 18th of April, I repeated the injection, and since then he has been completely free from any symptoms of his troublesome disease; he had resumed his former mode of life and pursuits, and has been subject to various changes of temperature whilst travelling, without experiencing the least return of his former symptoms.

CASE 2. In this case, I commenced at once with an injection of sixteen grains of nitrate of silver in four ounces of distilled water. The immediate effects were, the disappearance of the pain, which had been constantly present for three years; the urine was passed without any heat, scalding, or uneasiness; and the necessity for emptying the bladder became less frequent; the quantity of pus was much diminished, and no more blood was observed in the deposit, and his nights were passed in ease and comfort.

About a fortnight after, the bladder was again injected, with the same quantity of the solution of nitrate of silver, and the improvement which followed was equally remarkable. The urine can now, August 27, be retained for nearly the usual length of time; it contains barely a trace of pus, and is voided without the slightest pain. His nights are spent in comfort, his strength has greatly increased, and he has gained flesh. Finding himself so much improved, he has gone to the country for change of air, to expedite his cure. Even should some of the symptoms return, owing to the suspension of the treatment, I have no doubt they will quickly disappear after a third injection of the caustic is had recourse to.

CASE 3. A man, æt. 26, a labourer, was admitted into the Montreal General Hospital, labouring under paralysis of the lower extremities, the result of a severe injury. In addition, it was discovered that he had lost the power of emptying the bladder, and that the urine was mixed with a quantity of tenacious fetid mucus and pus.

He remained in hospital for some time before he came under my care, and then the following was the condition in which I found him:—Loss of motion and sensation of both lower extremities; inability to empty the bladder completely, but yet not requiring the catheter; the urine was constantly dribbling away, when he assumed the erect posture, was highly offensive, mixed with a large quantity

of pus, mucus and blood, and crystals of triple phosphate. It is unnecessary to detail the particulars of the treatment employed for the restoration of the power and sensation of the limbs. Suffice it to say, that after some time the sensation was completely restored, and he had acquired sufficient power over the limbs to enable him to walk about the wards, but no improvement was observed in the character of the urine. The notes taken by one of my pupils, state that "the urine was half pus, and caused great pain and scalding in passing."

Jan. 3. He was ordered the following mixture: *R* Infus. buchu \mathfrak{z} ss; tinct. buchu \mathfrak{z} j; bals. copaibæ, liquor potassæ, tinct. hyoscyam., aa \mathfrak{z} ss—one ounce three times a day.

Jan. 7. The quantity of pus had diminished to about one-third, and he was directed to continue the use of the medicine.

Jan. 21. As the quantity of pus had not perceptibly decreased since last report, I determined to employ injections of nitrate of silver, and as the disease had received a notable check from the internal remedy, I did not consider it necessary to use a stronger solution than one grain to the ounce.

Jan. 22. The urine was much clearer, and the deposit of pus was less by one half than previous to the injection, and he could retain the urine for two hours.

Jan. 28. The bladder was again injected, and next day no deposit was exhibited, and the urine was almost as clear as natural.

This man, soon after the last report was taken, was attacked with maculated typhus, and passed through the disease without suffering the slightest inconvenience from the affection of the bladder; and throughout, the urine exhibited a healthy character, even when examined microscopically.

CASE 4. A strong, healthy man, æt. 30, who had been under the care of my colleague, Dr. Hall, in the Montreal General Hospital, for gonorrhœa, and was discharged cured of the complaint, came to me about a month after his dismissal from hospital, complaining of frequent desire to make water, and of pain and difficulty in doing so. As there was no discharge whatever from the urethra, I thought it advisable to pass a catheter, and not meeting with any obstruction, I collected the urine drawn off by it, and examined it at the moment. It was slightly acid, spec. grav. 1024, at temp. 72° Fahr., coagulated on addition of nitric acid, and yielded an abundant exhibition of pus-globules on examination with the microscope. Having no symptoms referable to disease of the kidneys, I treated him for cystitis, and with decided benefit at first, but as he had not a comfortable residence, and was obliged to walk a great distance to my house, in the late hot weather, I recommended him to enter the General Hospital under my care. Here I had frequent opportunities of directing the attention of the students to his case. The urine being again examined, exhibited not only a deposit of pus-globules, but also of blood-globules. Notwithstanding this unfavourable complication, he was discharged about five weeks after admission perfectly cured.

In this case I injected nitrate of silver solution into the bladder; the quantity of pus immediately diminished, and after the third injection completely disappeared. The microscope was of the greatest aid to me in every stage of this interesting case.

I introduce this case for the purpose of showing that the injection of a solution of nitrate of silver into the bladder is not only of use in cases which could have been cured by other means, but that it is eminently successful in those instances which have resisted the most valuable general remedies.

Remarks on the Operation.—The patient being placed either in the erect position or on a sofa, a gum-elastic catheter, about the size of No. 9 or 10 (Weiss), is introduced, and water at the temperature of 21° F. is injected through this into the bladder, by means of a caoutchouc bag, or what I prefer, a syringe with a "three-way valve," by which the fluid can be drawn back if necessary. After the bladder has been completely cleansed of any fetid urine and mucus which may be contained in it, the solution of the caustic, being heated in the same degree, is to be introduced in a similar manner, and allowed to remain there for about one minute, care being taken, by compressing the urethra, to prevent its being forcibly ejected by the violent straining that is certain to be induced. The quantity of water or solution should never exceed four ounces, for though the bladder in its healthy state is capable of containing a pint and a half of urine, without being over-dis-

tended, yet as the quantity it is capable of retaining in severe chronic inflammation seldom exceeds a few tablespoonfuls, the bladder accommodates itself to its diminished contents, and gradually becomes smaller, and consequently a large injection would act injuriously in two ways—by over-distending the organ, or by passing up into the ureters. In fact, we find it unnecessary to use a larger quantity of the solution than I have mentioned, for it requires some address to introduce even that amount without resorting to force. The patient is then ordered a warm bath; and should the urine become bloody or mixed with shreddy concretions, he should use frequent fomentations and anodynes. But these symptoms seldom last for more than a few hours, and our patient should always be informed that such consequences are likely to be the immediate effects of the operation.

My patients have not suffered from retention of urine, which it appears frequently follows the use of the solid nitrate in the practice of Lallemand: nor have they had any inconvenience which was not readily allayed by an opiate.

The advantages which I consider the solution of nitrate of silver possesses over that substance in a solid form, are, first, that we can employ it of various strengths, from one to four grains, or even stronger if necessary. Secondly, we are certain that the application comes in contact with the entire diseased surface. Thirdly, we are also satisfied that it does not act more violently on one part than on another. Fourthly, it is more readily employed by an experienced operator; and, above all, it cannot possibly be attended with any risk, from the apprehension of which it is not easy to divest the mind, when using the *porte caustique* of Lallemand; and, together with the above advantages, it has this also to recommend it, that it will be found at least equally successful.

ART. 73.—Injection of Solution of Sulphate of Iron for the Cure of Prolapse of the Intestine. By J. P. VINCENT, Esq.

Observations on some of the Parts of Surgical Practice, 1847; p. 173.)

[After mentioning that, with few exceptions, the author adopts the operation of excising internal piles in preference to the ligature, and that by the use of a solution of sulphate of iron, a grain to an ounce, he has never been troubled with any serious amount of bleeding, he proceeds to state:]

Of late I have found such great advantage in employing sulphate of iron in prolapsed bowel, that the operation may very often be dispensed with, and the patient quite cured, merely with the use of this remedy. Very lately I had in the hospital two cases of the worst sort; the one of twenty years' standing, with a great protrusion and abundance of bleeding piles, who, in about three weeks, left without any protrusion or bleeding, declaring himself to be in a state of comfort that he had not known for so long a time. The other came from one of the institutions that offer great pretensions in the treatment of this class of cases. It was very bad, having both internal and external piles, and the bowel descending largely and most readily. He was completely relieved in about a month. Other cases of a slighter kind have been set to rights in not much more than a week. The patients should be kept in bed, of course, so that there should be every facility for repose of the bowel; and after it is cleansed out, a small quantity of the injection should be daily thrown up and retained. If the stomach can take balsams, they seem well adapted for the treatment of this disease.

ART. 74.—The Treatment of Wounds in the Chest. By G. J. GUTHRIE, Esq., F. R. S.

(Lectures on some of the more important points in Surgery, Medical Times, April 8, 1848.)

In order to be explicit on points so important as those of which I have treated, I have thought it right to lay down certain general conclusions, subject to general deviations:—

1. All incised or penetrating wounds of the chest should be closed as quickly as possible, by a continuous suture through the skin only, and a compress supported by adhesive plasters, the patient being afterwards placed on the wounded side.

2. If blood flows freely from a small opening, the wound should be enlarged so as to show whether it does or not flow from within the cavity. If it evidently

proceed from a vessel external to the cavity, that vessel must be secured by torsion or by ligature.

3. If blood flow from within the chest, in a manner likely to endanger life, the wound should be instantly closed; but as the loss of a reasonable quantity of blood in such cases, say from two to three pounds, will be beneficial rather than otherwise, this closure may be delayed until syncope takes place, or till a further loss of blood appears inadvisable.

4. If the wound in the chest have ceased to bleed, although a quantity of blood is manifestly effused into the cavity of the pleura, the wound may be left open, although covered, for a few hours, if the effused or extravasated blood should seem likely to be evacuated from it, when aided by position; but as soon as this evacuation appears to have been effected, or cannot be accomplished, the wound should be closed. It must be borne in mind that the extravasation which does take place is usually less than is generally supposed—a point which auscultation and percussion will hereafter, in all probability, disclose.

5. If auscultation and percussion should indicate that the cavity of the pleura is full of blood, and the oppression of breathing and the distress are so great as to place the life of the patient in immediate danger, the wound, although recent, should be reopened.

6. As soon as the presence of even a serous fluid in the chest is ascertained to be in sufficient quantity to compress the lung against the spine, and time has been allowed for the closure of the vessel from which blood originally flowed, a counter-opening should be made in the place of election for its evacuation by the trocar and canula, which may be afterwards enlarged, unless the reopening of the wound should be thought preferable, which will not be the case unless it should be low in the chest.

ART. 75.—*Restoration of the Alæ Nasi.* By M. BONNET.

(Translated for the *Prov. Med. and Surg. Journal*, Oct. 20, 1847.)

The *alæ nasi* are composed of skin, mucous membrane, and intermediate fibro-cartilage. In order, therefore, to restore a deficiency in these parts, the portion of flesh which is transplanted should consist of the three tissues mentioned.

None of the methods at present in use fulfil these conditions. If the portion to be substituted be taken from the skin of the cheek, the new *alæ nasi* is composed solely of integument, and is, moreover, extremely prone to gangrene, leaving an indelible cicatrix on the spot whence it has been taken. These disadvantages are all done away with if the surgeon makes use of the flap taken from the entire thickness of the upper lip; for in the first place he restores the lost part by a portion of similar construction, the skin of the nose is replaced by that of a neighbouring part, the mucous membrane of the interior of the nose is represented by that of the interior of the lip, and the muscular structure of the organ becomes a substitute for the fibro-cartilage of the nostril. Secondly, the flap of skin which is twisted round through the fourth part of a circle, being supplied by numerous vessels, is but little liable to sphacelate, but on the contrary unites readily; and, thirdly, the wound on the lip gives rise to a linear cicatrix, as it is sure to heal by the first intention, if the edges are properly adjusted. The success of this method is well exhibited in the subjoined case:

Complete destruction of the left alæ nasi: restoration by means of a portion of the upper lip.—Claude Poyet, aged 57, had the left *alæ nasi* entirely destroyed by lupus. The ulcer had been cured for upwards of six months, leaving a large excavation, which disclosed the interior of the nares. It occurred to me that this was a favourable opportunity for testing the above operation, and I accordingly performed it as follows:

After denuding the cicatrized edges of the deformed nostril, I cut through the entire thickness of the upper lip on the same side, by two incisions. The first of these commenced at the posterior angle of the ulceration, and inclined slightly towards the centre of the lip; the other, beginning half an inch farther back, ended at the commissure of the mouth. The space included between the incisions was exactly equal to the length of the anterior border of the ulcer. The flap was then separated from the superior maxilla for about a third of an inch in height, and the

two edges of the divided lip were brought together by three pins; the flap itself, being twisted round its anterior edge, was placed in apposition with the posterior border of the ulcer, its inferior edge to the anterior border, and its posterior edge was left to form the free edge of the nostril. The parts were kept in apposition by five sutures.

The advantages of this mode of operating were immediately visible. The cicatrix on the lip was perfectly linear, as in the operation for hare-lip, the flap filled up the gap in the nostril with the greatest exactitude, and the projection formed by the twist given it in some measure resembled the natural state of the parts. The case was seen by several surgeons, and its results were considered in the highest degree satisfactory. The only drawback was the necessity of shaving the new nostril, upon which the beard grew as usual.

In order to exhibit the advantages of the above method of operating, I will now briefly pass in review the different processes for restoring the *alæ nasi* which have generally been adopted.

When the integument covering the bones of the nose is not implicated, and the destruction is entirely confined to the cartilage of the nostril, it is evident that the restoration must be made from the neighbouring integuments, and not from the forehead. In doing this, two methods may be followed: that by traction, or the French method; or the Indian, or the method by torsion. The French plan may be adopted under two modifications. The flap of integument which is detached on three sides may be left adherent by its outer or by its upper border. By the first method, if the loss of substance has been as great as in the present instance, it is doubtful whether the flap could be drawn sufficiently forwards to enable its internal border to be neatly adapted to the skin which remains upon the dorsum of the nose; and even if by minute dissection this adaptation be effected, the appearance will be anything but graceful, as the side of the nose thus restored will have a straight direction from the cheek to the bridge of the organ, instead of assuming the natural sinuosities of that feature.

If the flap from the cheek be left adherent at its superior border, as is advised by M. Serreo, the operation will doubtless be more easily accomplished; but it is to be feared that the flap, which is supplied by capillary vessels only, will be inclined to sphacelate; and in addition to this the wound, which is necessarily made to obtain the flap, will offer a most unsightly cicatrix.

M. Labat proposes to restore the *alæ nasi* by a flap taken from the cheek, and twisted upon itself; a proceeding which we do not consider as offering any prospect of success. If the muscles of the face are included in the flap, the movements of the face are in part destroyed, and the facial artery and vein are wounded; and on the other hand, if the skin alone is used, there is the fear that it will sphacelate, at least at its borders, and thus destroy the form of the nostril.

In reference to the plan which I have above advocated, there are but two trifling objections, viz. the growth of hair upon the nostril, and the great thickness of the flap. The latter is more apparent than real, and the former inconvenience is readily obviated by the razor, or the use of depilatories.

ART. 76.—*The Treatment of Dislocation of the Patella on its edge.* By J. P. VINCENT.

(Liber citatus, p. 173.)

When the patella rests in its trochlea, but is turned on its edge, the inner edge is applied to the femur, the outer, of course, standing out at right angles to it; the upper surface faces the other knee, and the articular surface looks outwards. It might, on first consideration, be supposed that a replacement could be readily effected; but, practically, it is a very formidable undertaking, if the surgeon has not entered into those views I now offer to the profession, in connection with the association under which muscles act. Some years ago, I was called suddenly by a surgeon to assist in reducing a dislocation of this sort, for effecting which, the medical man had resorted to all the various expedients he could contrive for effecting the purpose. I found the patient to be a gentleman who some years before had, in the common way, dislocated the patella whilst shooting; and that he had subsequently had the same accident often occur; but now it had become the dislocation of the above kind. The surgeon had exhausted his ingenuity:

however, we resumed the series of contrivances with all the powers we could exert of lateral pressure on the bone in all directions, but nothing availed; and it seemed to me as firmly fixed in position as if three or four long screws had been driven through its thickness, and bound it most closely to the femur. All this time we were acting in the falsely received notion of relaxing muscles by merely keeping their attachments as much as possible approximated to each other, and the leg was most carefully extended on the thigh.

After a long course of trials in this way, it occurred to me, that I might effect some change by giving the bones a sort of shake; for this purpose I slightly bent the leg, and gave a little rotatory motion to the tibia, when the patella quietly returned to its proper situation, as if a charm had released it from its fixed state. The hand of an infant might now have deposited it in its trochlea. The result of the manipulation in this case, led to reflections which opened to my view principles very different from those I had formerly held. It offered a forcible example, that any muscle disturbed in its arrangement, is under great excitement to act. The disturbed arrangement here was the elevation of the centre of action of the extensors above the ordinary position; and as these muscles, in the straight position of the whole limb, are called upon to support a great proportion of the weight of the body, so when in that position they are naturally impelled to exert a vast force. But in obedience to the associated action of combined muscles, when the leg is bent, and another order of motions in this complicated joint is brought into play, then these extensor muscles immediately relax; they would otherwise, by their action, prevent the rotatory motion of the leg upon its axis. Thus the moment the leg was bent, the extensors returned into a comparative state of repose, and left the patella quietly to resume its appointed position. Not very long after the occurrence of the above case, I was called one night to the hospital to a similar one. The house-surgeon had adopted all the means of ingenuity and of force, but had not succeeded in reducing it. I bent the leg, and, rotating it in the axis of the tibia, the patella quietly returned, and thus was accomplished the reduction.

[An article on this variety of dislocation will be found at page 93 of our last volume.—H. A.]

SECT. IV.—RARE SURGICAL CASES.

ART. 77.—Fatal Hemorrhage from the Subclavian Artery in a case of Abscess of the Neck.
By WILLIAM JACKSON, Esq., F. R. C. S., Sheffield.

(Condensed from the *Prov. Med. and Surg. Jour.*, July 14, 1847.)

July 16th, 1830, I was requested to visit J. W., æt. 19, whose general appearance presented the characteristic features of scrofula. He had suffered for several months from an extensive swelling of the right side of the neck. His health had suffered considerably by the discharge from two or three openings, which had been established more than a month. I was summoned by an urgent message in the night of the 16th, and found him in a state of syncope, from loss of blood from two or three apertures on the side of the neck. The hemorrhage had ceased, the openings being occupied by coagula of blood. The largest aperture was seated about two inches above the clavicle, and somewhat nearer the sternum than the scapular extremity of the bone. The other apertures were seated more outwardly. The attendants represented the bleeding to have been very sudden and copious, the almost immediate effect of which was complete syncope, and a cessation of the flow of blood. I remained till the patient recovered his consciousness, expecting, of course, a renewal of the hemorrhage; but as he still remained in a languid state, with an almost imperceptible pulse, no immediate measures were adopted for his relief. From the appearance presented by the blood, as stated by the persons present, and from the rapidity of the stream, there could be no doubt but a vessel of considerable magnitude had given rise to the bleeding. The situation of the disease was carefully explored, and there was just reason to infer that the abscess originated from some deep-seated part, most probably from the bodies of the cervical vertebræ. The question presented itself,—from what vessel did the bleed-

ing arise? It might be from the subclavian or the vertebral artery, or the internal jugular vein; for a vessel of inferior magnitude would not pour out blood so rapidly as to sink the powers in so short a time. The pulse became gradually restored, and consciousness returned. The application of cold, rest, and cooling drinks were enjoined.

On the 17th, the circulation had become moderately re-established, and there had been no return of the hemorrhage.

On the 20th, there was a sudden return of the hemorrhage, which, as before, had quite subsided. On my arrival, I found the poor young man deluged with blood, and in a state of insensibility.

The cause was one evidently of unusual occurrence, for all concurred that one of the great vessels in the neighbourhood of the abscess was the source of the hemorrhage. It was generally considered by the gentlemen engaged in consultation, that the hemorrhage proceeded from a part inaccessible to surgery, and that in all probability extensive disease existed, besides the ulcerated artery giving out the blood. Under these circumstances, therefore, no operative means were advised. After the recurrence of hemorrhage on the 22d and 24th, our patient sunk.

Post mortem.—The blood-vessels were injected, and it was found that ulceration had occurred in the subclavian artery, as it lies upon the first rib. The rib was in a carious state, as well as the bodies of the contiguous vertebræ. The situation of the ulcerated opening in the artery was towards the bone, and occupied about one-fourth of the calibre of the vessel; the opening was of a somewhat oval shape, and well defined. There was no enlargement of the capacity of the vessel at the part.

ART. 78.—*Ligature of the Vertebral Artery.* By Professor CHELIUS.

(Condensed from his *System of Surgery*, vol. ii. p. 249.)

Dietrich has proposed two methods, according as the artery is to be looked for between the *atlas* and *dentata*, or between the *atlas* and *occipital bone*.

I. The head of the patient being inclined to the opposite side, and a little forwards, a cut is to be made two fingers' breadth from the lobe of the ear, or one finger behind the mastoid process, beginning half an inch above the latter, and carried for two inches along the outer hinder edge of the sterno-mastoid muscle. From the upper fourth of this cut a second is to be carried an inch backwards and obliquely downwards. After dividing the skin and some cellular tissue in both cuts, in the first is seen the outer and hinder edge of the *sterno-mastoid*, and in the second the *splenius* covered with aponeurosis. The wound is now to be deepened through the aponeurotic and cellular tissue, and in the second cut the fibres of the *splenius* are to be divided, at which time a small artery will be wounded. A second aponeurotic layer must be divided, and under it pass some branches of arteries and nerves. An assistant, with blunt hooks, holds the edges of the wound apart, and a layer of fat appears, in which is the vertebral artery. At the same time, also, the outer edge of the *obliq. cap. infer.* is seen at the inner edge of the second wound, and is to be drawn somewhat inwards. Two branches of the occipital artery, also inclosed in cellular tissue, pass across the wound. The cellular tissue is now to be divided with the handle of the knife, and the arterial branches drawn upwards or downwards. Two branches of the second cervical nerve show themselves, and are to be drawn up or down; after which the isolation of the artery is no longer prevented. The needle is to be carried round the artery from without inwards, to avoid the internal carotid, which is only separated from the vertebral by cellular membrane.

II. The cuts should be made as in the former case; but the first is to be begun a quarter of an inch above the mastoid process, by which the second cut runs somewhat more upwards. After cutting through the skin *fascia* and *m. splenius*, the occipital artery appears in the upper angle of the first wound, as also at the front edge on the upper fourth, the hind edge of the *m. obliq. cap. super.*; but in the whole surface of the wound a layer of *aponeurosis*, and under it cellular tissue, loaded with fat, the former of which must be carefully divided. The edges are to be held asunder with blunt hooks, and then a triangle appears, formed by the

m. rect. cap. post. and *m. obliq. cap. super.* and *infer.*, filled with fat and cellular tissue. This is then to be carefully divided, turned back, and, if in large quantity, should be partially removed; upon which the artery appears below the *m. obliq. cap. super.*, and runs backwards nearly an inch before it perforates the occipito-atlantal ligament. The ligature is then passed obliquely from below upwards, to avoid the nerves and vein.

ART. 79.—*Remarkable Case of Emphysema of nearly the whole Body.*
By M. G. PONCE.

(From the Spanish Journal, *Anales de Cerugia.*)

A man, æt. 47, for several years previously affected with chronic bronchitis, received the shock of a bar of iron, from the height of six feet, upon the dorsal region, whilst he was bent towards the ground; the pointed end struck the inferior angle of the scapula, produced a small ecchymosis, and lacerated the skin. From the moment of the injury breathing became difficult, expectoration ceased, fever commenced, violent pain was felt in the wounded part, and the patient became restless and agitated. Sinapisms and resolvents were applied; an antispasmodic drink prescribed; and about 50 ounces of blood were taken four hours after the accident; there were extreme dyspnœa and hissing respiration; icy coldness over the whole body; a considerable tumefaction was formed by the infiltration of air in the subcutaneous cellular tissue, which covered nearly the whole surface of the body. In some parts the infiltration was so great, as to enable one to thrust in the fist. The eyelids were so much swelled, that all light was excluded; the breasts resembled those of a woman of a lymphatic temperament; and the abdomen was larger than in ascites arrived at the last stage. The penis was enormous, but it was remarked that the scrotum retained its normal state. Added to these symptoms, there were complete aphonia and dysphagia. Thirty-three large incisions were made in the emphysematous regions. The air escaped by these openings with a noise which astonished the assistants; as much as possible was pressed from the tissues through the incisions. The patient immediately recovered his speech. About 38 ounces of blood were taken. At the following visit, more air was let out from the wounds, by means of pressure through the punctures. The patient still felt pain in the seat of the contusion; the pulse was hard, with great thirst, and no expectoration (24 leeches). In the night the patient was calmer, and expectorated abundantly. The following day, general perspirations occurred; there was less pain and more fever. The cure was completed by the eleventh day.

The editor of the "Encyclographie" remarks, "the case is very interesting, but the interest is augmented by the obscurity with regard to the origin of the emphysema. It is doubtful whether the emphysema was produced by the ecchymosis and laceration of the skin. This is the author's decision, but is, however, without proof or certainty. On the other hand, there is nothing to show that the origin of the emphysema was not the rupture of some pulmonary vesicles, or perhaps a fracture of the ribs, the ordinary cause of emphysema, but the absence or existence of which, in this case, is not mentioned. The uncertainty can be easily understood, as an emphysema of this nature, and to such an extent, produced by a cutaneous lesion of so little importance, is a very rare occurrence."

ART. 80.—*Case of Mortification of the Lower Extremity from Spontaneous Obliteration of its Arteries in a young subject—Amputation twice—Ossific Transformation of the Femoral Artery—Recovery.* By ALEXANDER FIDDES, late Surgeon to the Kingston Dispensary, Jamaica.

(*Monthly Journal of Med. Sciences*, March 1848.)

Alexis Sequeira, æt. 23, came first under my care two years ago, complaining of his left foot. It was painful, had a livid colour, and felt colder than its fellow. The small toe was black, dry, and insensible. Over the course of the tendo-Achilles there was the cicatrix of an ulcer, which had proved very difficult to heal; and partly from this, partly from a contracted state of the muscles of the calf, there was a permanent elevation of the heel, so that, in walking, he touched the

ground only with the anterior part of the sole. Under the use of poultices, the mortified toe separated, the wound cicatrized, and by rest and other sedative measures, he felt altogether so much better, that I took my leave, and saw nothing more of him till the middle of August, 1847, when I was a second time requested to see him. He then informed me that, though the limb had always felt more or less stiff and painful since my former attendance, yet it had not prevented his walking abroad until lately, when a black spot made its appearance where the toe had been, and the pain, at the same time, became so aggravated, and the whole limb so stiff and contracted, that he was obliged to keep his bed. The foot felt cold and clammy, and was purple-coloured. The cicatrix above the heel had ulcerated, and all the muscles of the limb were rigid and painful on being pressed. On examining the course of the arteries with the fingers and stethoscope, no pulsation could be detected in that side from the foot up to the aorta's bifurcation. There was nothing morbid in the heart's action, or in the circulation on the opposite limb. During my subsequent attendance, extending to a period of two months, matters became daily worse. The temperature of the foot and lower part of the leg was always below the standard heat of the body. The muscular contraction increased until the leg was bent at a right angle with the thigh, and the thigh drawn up upon the pelvis. Gangrene seized all the toes in succession, and spread progressively along the foot. The ulcer above the heel showed a proneness to slough. The pain became almost insupportable, prevented sleep, and was hardly allayed even by liberal doses of opium. The mouth became covered with aphthous ulceration, and hectic irritation set in. On the 19th of Oct., the gangrene had extended close to the ankle-joint, without showing any attempt at a line of demarcation, and his powers had become so depressed, as to make it obvious that he would soon sink, unless relieved of the cause of irritation.

Impelled by the urgency of his condition, but without sanguine expectations of ultimate success, I amputated the limb that day, close under the knee, with the concurrence and assistance of Dr. Charles Campbell and Dr. James Scott. The skin, fascia, and muscles constituting the flaps looked sound, but there was no bleeding, beyond slight oozing, nor could any artery be recognised on the cut surfaces. The integuments were stitched together, and a roller loosely applied. On dissecting the removed limb, the arteries were found to have lost all trace of their tubular formation, having degenerated into tough, yellow-coloured ligamentous bands. The veins were unobstructed, but diminished in calibre, thickened in their coats, and morbidly adherent to the surrounding parts. They consequently did not collapse when cut across, but remained open like an artery.

October 21st. On removing the dressings this morning, the whole anterior flap was gangrenous; some febrile disturbance; stitches removed; hot-water dressings.

November 10th. All the mortified parts have separated, exposing the tibia and fibula, denuded of periosteum. There has been no sloughing in the posterior flap, which is now granulating. Sleeps and eats well. General health greatly better. Muscles of the thigh have lost their spasmodic rigidity, and are not painful on being pressed. There is consequently greater freedom in the movements of the hip.

December 11th. Progressive improvement in general health. The exposed condition of the bones rendering the stump unfit for any useful purpose. I amputated this day in the middle of the thigh, by antero-posterior flaps. The cut surfaces oozed freely, and two arteries required to be tied; one was a muscular twig; the other, a considerable branch, ran in the centre of the great sciatic nerve, and required to be carefully pulled out, to keep the nerve clear of the knot.

Dec. 14th. Stump dressed; no uneasiness or discharge; seems well united.

Dec. 16th. Stitches removed; perfect adhesion of the integuments, except a small aperture through which the ligatures hung; adhesive straps applied.

January 5th, 1848. He called at my house this morning, walking well with his wooden leg. Being in excellent health, he is anxious to resume his avocation. The stump shows no sign of imperfect circulation. When the amputated portion of limb was dissected, the femoral artery, as low as the knee, was found to have undergone an osseous transformation; but, unlike the calcareous degeneration of the aged, it consisted of a chain, or series of pieces of bone, white, spiculated,

and compact, having physical properties similar, in all appearance, to natural osseous tissue. These were deposited in and linked together by a yellow fibrous substance, similar to that which occupied the room of the arteries below the knee. This was evidently the matrix in which they were generated and developed. Some of these ossific bodies are an inch long, and nearly half an inch broad. They resemble the long deposits sometimes found in the *fulx major* and other processes of the *dura mater*. The femoral vein presented similar appearances to the veins described above.

Remarks.—The transformation of the femoral artery observed in the present case, may be considered, I think, as a disease *sui generis*; for it does not appear analogous to the senile generation, but distinct from it in structure and mode of growth. Though lower in the scale of organization than the tissue which it has supplanted, it is, nevertheless, capable of carrying on its own nutrition; and it seems probable, if a collateral circulation could be established in cases of this kind, that the arterial trunk thus transformed would remain throughout life without causing disturbance, or falling under the operation of that law by which foreign and injurious substances are expelled from the body. On the other hand, the calcareous degeneration of the old man has no title to the rank of a vascular organized structure, being merely a deposit of earthy matter between the tunics of the artery, retained mechanically as an incrustation, and which, sooner or later, operates destructively, as a foreign body, upon the vessel. Both these morbid alterations have, of course, an obstructive effect on the circulation, and produce a liability to chronic gangrene—in the one, the arterial canal must always be obliterated; in the other, the vessel, though inelastic, may be still pervious, and capable of transmitting the stream of blood. In old persons the calcareous degeneration takes place without any apparent inflammatory action, as a natural consequence of age, or from a pathological state of the fluids, similar to that which produces the gouty and urinary deposits, as has been ingeniously supposed by Andral; but the ossiform transformation appears to be the result of an antecedent arteritis. The first step in the morbid process towards its formation being occlusion of the arterial canal by coagulable lymph, conversion into a dense fibrous structure, then, by a continuance of the inflammatory action, ossification; for it has been fully ascertained by observation of disease, and by experiments, that chronic inflammation in fibrous tissue induces its ossification. This hypothesis of the osseous transformation, then, has the support of analogy, although, as Andral observes, we perhaps express as much as we know of the origin of accidental osseous formations, when we say that they are produced by a perversion of nutrition. Although amputation was performed in opposition to the established principle, which forbids such a procedure in idiopathic mortification, so long as there is no line of separation between the dead and living parts, yet I am convinced that this young man's life was saved by the departure from that rule of surgery.

It would probably have been more judicious to have amputated in the first instance above the knee, as the flaps there, from their thick and extensive attachments, and proximity to the centre of circulation, would have had a better arterial supply than the flaps below the knee had in the first operation. This is made probable by the fact, that while the thin integumentary flaps on the anterior surface of the leg perished, the thick and muscular one taken from the calf retained its vitality completely. The iliac trunk being obstructed, the circulation must be carried on chiefly through anastomoses between the lumbar arteries and ramifications of the gluteal and ischiatic, that had escaped obliteration.

[Interesting articles on the subject of dry gangrene, senile gangrene, &c., will be found in the "Half-Yearly Abstract," Vol. III., pp. 80, 84, and 181; and Vol. V., p. 92, by Dr. Binaghi, Professor Tiedemann, and Mr. H. Fuller. The reader is also referred to Mr. Solly's remarkable case in the "Med. Chir. Trans.," vols. xxii. and xxiii. In this case a morbid state of the blood was the most probable cause of a universal gangrene of the limbs.—H. A.]

ART. 81.—Abscess of the Tongue ending fatally from Hemorrhage.
Related by Mr. WARD.

(*London Medical Gazette*, Nov. 12th, 1847.)

E. T., aged 7, was born with a slight red enlargement in the centre of the tongue. No inconvenience or difficulty in the ordinary motions of the tongue, or in swallowing, had ever been experienced. The general health had always been good. In the night of Sept. 27th, 1847, having been in her usual health at bedtime, she was attacked with pain and swelling under the chin and both sides of the lower jaw, slept very little, and the following morning had pain in the tongue, with great difficulty in speaking, or swallowing anything but liquids. She had an aperient powder at night, and the lower jaw was fomented frequently. In this state she continued for two or three days, and was first visited by me on Oct. 1st, when the following appearances were noticed: face flushed, eyes very bright, countenance anxious; great swelling, redness, and extreme tenderness of the parts under the lower jaw; very slight swelling of the tongue itself, which is covered with a thick, brown fur; is unable to open the mouth wide, or move the tongue beyond the teeth, or to speak, and has great pain in the mouth; pulse very quick and sharp; great heat of skin, and thirst urgent; bowels confined. Ordered eight leeches to be applied under the chin; to take, at bedtime, four grains of calomel, James's powder and sugar, of each three grains; a saline mixture, containing a scruple of nitrate of potash; one table-spoonful every three or four hours.

Oct. 2d. Slept more last night than since first attacked; fever great; pain slightly relieved; swelling and redness less; mouth nearly closed; was able to swallow the powder in jelly, but refuses the mixture, of which very little has been taken; bowels freely relieved; evacuations dark and offensive. To take calomel and James's powder, of each three grains, and jalap, five grains, at bedtime; use a chloride of soda gargle, warm, to the mouth, by means of a syringe. Fluids taken in the mouth return by the nose.

4th. Less fever; rests better at night; difficulty in swallowing, or speaking the same; can open the mouth sufficient to allow the tongue to be seen, which is nearly fixed, very little swollen, and still thickly coated; the breath extremely fetid; external swelling and redness still considerable, the tenderness great; pulse soft, quick, and weak; the bowels act freely; was able to pass my finger into the mouth. Under each side of the tongue distinct fluctuation can be felt. While pressing on the left side, the lining membrane gave way, and was followed by a profuse discharge of fetid pus, mixed with blood. The point of the finger passed easily to the depth of the first joint under the tongue, giving the sensation of a large pulpy cavity. The tongue not very tender, can be moved from side to side, by means of a small tea-spoon, but not voluntarily. Apply strong poppy fomentation frequently, and linseed poultices. Continue the chloride of soda gargle under the tongue, with the syringe, and take of a mixture consisting of six grains of quinine, a tea-spoonful every four hours. Give a little port wine and water frequently, and milk, or thin arrow-root for drink.

6th. The pain less since the use of the poppy fomentation, generally sleeping for some hours after using it; the discharge of pus and saliva very copious and offensive; lies with the head on the left side, to allow the free exit of the discharge, otherwise the mouth is constantly filled; fever less, as also the swelling and tenderness; redness gone; great debility, and considerable wasting of the body already; can swallow fluid, and is eager for the wine; very little of the quinine has been taken; bowels act twice a day; can open the mouth wider, but is still unable to protrude the tongue, which is cleaner and moister; on slightly raising it by the handle of a spoon, a large jagged opening may be seen on the left and under side of the lower jaw, from which, by gentle pressure under the chin, a profuse discharge of thick pus swells up, of which I pressed out at least two ounces; pulse soft and weak. Continue the external applications; apply the chloride-of-soda gargle frequently to the mouth and under the tongue, with the syringe; take a mixture consisting of two ounces and a half of decoction of bark, syrup of orange-peel, and tincture of bark, of each two drachms, a fourth part three times a day; continue the wine, and give strong beef-tea and arrow-root frequently.

9th. Altogether improved; discharge less, but still fetid; takes fluid nourishment frequently, and the wine; the general swelling and tenderness reduced, more on the left side under the jaw than the right; and is unable to protrude the tongue further. Continue all the applications and the mixture.

11th. Has not rested so well the last two nights, and has had more pain, particularly on the right side, which is more swollen, and very tender, the left side being almost in its natural state; the discharge has been profuse, but thinner; the tongue is moist and clean, not very tender, but less moveable; the opening under the left side of the tongue smaller; fever returned; has constant hacking cough; not able to swallow so well, or to speak as to be understood.—Apply six leeches under right side of the lower jaw; continue the fomentation and poultices; also bark mixture and port wine.

12th. Has slept very little, from the frequent coughing, which tires her very much. Discharge from the mouth less, and thinner, but still fetid; emaciation extreme; has changed the position of lying to the right side; left angle of the mouth drawn down; the swelling and tenderness on the right side very much increased since yesterday; feels soft; is more prominent in the centre, and appears pointing here. The finger in the mouth can detect very distinct fluctuation under the tongue, which is thickly coated, and very tender. Takes very little nourishment; only a tea-spoonful at a time; prefers wine to other things.—Continue the fomentations and poultices.

13th. Has had a bad night; is very irritable and feverish; mouth nearly closed; unable to examine the tongue; the swelling about the same; the right cheek and under side of the jaw of a dusky red colour, and very shining, so tender that she has again changed the position, lying on the left side; cough less; pulse very small and weak; takes scarcely anything; discharge more copious, thicker, and slightly tinged with blood; it now appears to come from the right side. In the evening, while coughing, a large gush of blood took place from the mouth, mixed with pus, and flowed freely for more than ten minutes. By applying ice internally (which I had directed to be in readiness), the hemorrhage was arrested. A cold lotion was applied externally, and an alum gargle frequently to the mouth.

14th. Has slept very little; unable to lie down, from the constant discharge of fetid pus and saliva from the mouth; the swelling of the right cheek and side of the jaw less; very tender, of a dull yellowish colour; able to open the mouth so as to examine the tongue, which does not appear enlarged; no power of moving it herself; is thickly coated with a dark fur, and when pressed upon, a profuse discharge of thick pus fills the mouth immediately; no return of the hemorrhage; is very pale and faint; pulse very small and weak; has taken more nourishment since last night than for some days before, such as port wine, isinglass in milk, beef-tea, jelly, &c.—Continue the lotion and alum-gargle to the mouth with a syringe. At half-past 7 P.M., in the act of swallowing a small piece of bread and butter, profuse hemorrhage occurred from the mouth, and more than a pint of blood was lost before it was again arrested by the free application of ice; it was of a bright arterial colour. She became faint, and expired at 9 P.M.

On the following day I made a post-mortem examination of the parts affected. The parotid, sub-maxillary glands, and other parts, having been brought into view, were found (on the right side) so much softened, decomposed, and mixed with coagulated blood and pus, as to be recognized with difficulty, and it was impossible to trace from what vessel the hemorrhage had proceeded, such was the destruction of the parts. On the left side, the glands were of a greenish colour, very much softened, and bathed in pus. A probe passed readily by the side of the jaw into the mouth. I divided the trachea just above the sternum, and dissected the larynx and tongue carefully out. The morbid state of the tongue is shown in the preparation before the Society.

ART. 82.—*Elephantiasis Scroti*.—In 1837, October 3, Dr. Picton, of New Orleans, operated upon a negro of that city, excising the scrotum, which weighed 53 pounds. The testes were saved. The man is still alive, in fine health, and, as recently as five weeks ago, became the father of a child. Knowing that many gentlemen are solicitous to learn the condition of the patient, we take pleasure in presenting these facts.

Bost. Med. and Surg. Journal, Aug. 1847, p. 524.

PART III.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

SECT. I.—MIDWIFERY, AND DISEASES OF WOMEN.

ART. 83.—*On the Causes of Abortion.* By Dr. TYLER SMITH.

(*Lancet*, April 15, 1848.)

[Dr. Tyler Smith investigates the subject of abortion under the new light afforded by the important discoveries of Marshall Hall. He accordingly divides the causes into two categories, *excentric causes* and *centric*. Respecting the first class, he observes:]

1. *Excentric causes of abortion.*—Irritation of the *mammary nerves* may produce abortion, as in cases of undue lactation, complicated with a second pregnancy. Cases occur in which, during prolonged lactation, two or three conceptions and abortions follow each other, the latter being caused by the irritation of constant suckling. The question naturally suggests itself,—whether it is not the constitutional debility, rather than the local irritation, which induces abortion in these cases; and there can be no doubt that this, like many other anæmic conditions, may help to produce the accident. There is, however, over and above this, mammary irritation as a distinct cause. I have observed cases in which, owing to the synergic action between the uterus and the breasts, the secretion of milk had been almost entirely arrested by conception, the infant being chiefly supported by feeding. The child would still suck most vigorously, in its attempts to obtain milk, until the uterus was excited to the expulsion of the ovum, and after the abortion has occurred, the secretion of milk returns abundantly. Such cases are very different from those in which the breasts are dried up from debility. If the synergic relations between the *mammæ* and the uterus required any more obvious proof, I might refer to cases on record in which actual metritis has been caused by the application of sinapisms to the breasts in amenorrhœa. It is important to recognise mammary irritation as a cause of abortion in the early months, because it may be mistaken for a profuse menstruation; and the woman, misled by the subsequent profusion of milk, may allow of its recurrence, and so suffer constitutional injury. It is curious that irritation of the stomach, between which and the uterus there is such a distinct relation, should *not* produce abortion. After parturition, the slightest gastric irritation will excite contractions of the uterus; but during pregnancy, gastric irritation and sickness even to death may occur without disturbing the *fœtus* in utero; on the contrary, sickness seems positively favourable to the continuance of utero-gestation. The synergies between the lungs and the uterus are equally remarkable. The uterine phenomena of utero-gestation retard the progress of pulmonary disease, but if the most extensive disease of the lungs exists, it does not excite abortion. An amount of pulmonary disease sufficient to cause death a few days after delivery, may exist without any interruption to the natural duration of pregnancy.

Irritation of the *trifacial nerve* will sometimes excite abortion. It happens when no other cause can be recognised but the appearance of the *dentes sapientiæ*, and

this phase of dentition is well known to produce considerable local and constitutional disturbance. General convulsions may, in fact, be excited from this source, either in the male or female subject. The reflection of irritation from the trifacial upon the uterine nerves, in young pregnant women, is no more remarkable than the strangury excited by teething in the infant. Extraction of decayed teeth during pregnancy is another cause of abortion in which the trifacial is concerned. There is a well-known synergy between the uterine system and the teeth during pregnancy, leading to toothache and caries: and there is also a tendency to reflex action in the direction from the teeth to the uterus. These facts and their rationale require to be borne in mind in the management of pregnancy.

Irritation of the *vesical nerves* is, in rare instances, a cause of abortion, as when patients conceive who are the subjects of chronic vesical irritation, or when there is stone in the bladder. The uterus itself reflects irritation upon the bladder during pregnancy, so as to exaggerate the effects of any primary vesical irritation which may exist.

Irritation of the *ovarian nerves* is a very frequent and important cause of abortion. It is a well-recognised fact, and one upon which I had often had occasion to dwell, that the majority of cases of abortion occur at what would have been menstrual periods. In such cases it is the ovarian nismus, and the attendant irritation of the ovarian nerves, either alone or combined with other causes, which excite the uterus to expel the ovum. The ovarian excitor nerves act in such cases in just the same way as they act in bringing on natural labour at the completion of the full term of pregnancy. Almost all women can perceive the menstrual periods as they pass through utero-gestation, particularly at the first three or four periodic dates. Those who have suffered from menorrhagia or dysmenorrhœa, or in whom organic ovarium disease has existed before conception, recognise the menstrual nismus most clearly, and it is precisely in these subjects that abortion is most likely to happen. Abortion in the early months is common during the grand catamenial climacteric; it constitutes, in fact, one of the chief dangers of this epoch. In all cases of abortion, caused by irritation of the ovarian excitor nerves, the most common time for the occurrence of the accident is at the second, third, or fourth periods, but it may happen at any one of the periods. In cases where the abortion depends upon irritation of other excitor nerves, or upon erythismus of the spinal centre, the periodic ovarian irritation often determines the time of the accident.

Irritation of the *rectal nerves* is a common cause of abortion. This variety of abortion is obvious when the accident occurs from hemorrhoids, or from operations for their removal; the presence of ascarides in the rectum: the employment of irritating purgatives, particularly aloes, in excess, or the use of irritant enemata, or from the occurrence of severe diarrhœa or dysentery during pregnancy: obstinate and long-continued constipation, or any other great irritation of the lower bowel and its excitor nerves, may occasion abortion.

Irritation of the *vaginal nerves* sometimes excites abortion. Plugging the vagina is one of the means resorted to for the artificial production of premature delivery; the mechanical irritation of coitus will sometimes produce abortion, and this cause must be divided between the os uteri and the vagina. In cases of threatened abortion with hemorrhage, the danger of the accident is sometimes increased by the plugging of the vagina resorted to in order to arrest the loss of blood. This fact should always be borne in mind when the plug is resorted to in hemorrhage of any kind occurring during utero-gestation. It is possible that in arresting the hemorrhage we may ourselves cause abortion.

Irritation of *uterine nerves* is, beyond doubt, the most important of all the causes of abortion. Abortion may occur without any other apparent disorder of the ovum or the uterus, except an absence in the uterus of the proper disposition to growth or development. The uterus will grow to a certain size, and then an arrest of development appears to take place, which ends in the expulsion of the ovum. In other cases the fœtus dies, and becomes a foreign body, directly irritating the uterus to throw off its contents. This cause of labour involves the whole subject of intra-uterine pathology, and of all the disordered condition of the fœtus, membranes, and placenta. The separation of the membranes from the walls of the uterus, and the effusion of blood, or disease of the placenta, are important causes of abortion.

Puncturing the membranes, and bringing the fœtus in direct contact with the parietes of the uterus by the evacuation of the liquor amnii, will excite abortion in the same manner. In the abortion excited by violent horse or carriage exercise, the accident depends on the mechanical irritation of the os and cervix by the fœtal head, in consequence of the succussion. In principle, the abortion caused by equestrian or carriage exercise is precisely the same as the ovi-position excited in the tipula or libellula, by shaking these insects upon rough paper. Irritation of the os uteri by coitus; the use of the plug; vascular irritation and inflammation; ulceration of the os and cervix, will, if continued, excite reflex actions of the uterus, terminating in the loss of the ovum. Another uterine source of abortion is the implantation of the placenta over the os and cervix uteri. The presence of the placenta in this abnormal situation excites the uterus from within, in the same manner as the plug from without; hence the frequency with which placenta-prævia cases terminate in premature delivery. When speaking of ovarian irritation as a cause of abortion, I mentioned that this danger chiefly occurred during the early months of pregnancy. In placenta prævia, on the contrary, owing to the greater development of the placenta, and the anatomical changes occurring in the os and cervix uteri as pregnancy advances, the danger of abortion in these cases increases with the duration of pregnancy. Different tumours, malignant or non-malignant, attached to the os and cervix, or to the parietes of the uterus, when they excite abortion, act after the same manner. To the long list of uterine irritations issuing in abortion, I may add injuries of the uterus itself from external violence, and inflammatory disease of the uterine tissues.

All these causes, it will be observed, whether vaginal, mammary, vesical, rectal, facial, or uterine, are purely excito-motor in their operation. The irritation is applied to the excitor nerves, and reflected through the spinal marrow upon the motor nerves and the uterus. It often occurs that two or more causes are in operation at the same time. The reflex contractions of the uterus which constitute abortion are not excited, as in the case of respiration or vomiting immediately on the application of stimuli. If cold water be thrown upon the breast, the movements of inspiration—if the fauces are irritated, the movements of vomiting—are instantly produced. But it is not thus in the case of the uterus. Though this organ is so distinctly under the control of the spinal marrow during, and immediately after, labour, so distinctly, indeed, that asperging the abdominal surface soon after delivery produces instantaneous uterine contractions, yet, during pregnancy, no reflex actions sufficient to cause abortion follow immediately upon the application of the ordinary stimuli of excito-motor action. It requires that the nervous arcs in relation with the uterus should be irritated for a considerable time, and an excitable state of the uterine nervous system is then produced, during which reflex actions are readily excited by slight causes.

All the excito-motor causes of abortion are, in fact, imitations of the ovario-excitor cause of natural parturition at the end of the utero-gestation, only in many cases, instead of the ovarian nerves being the inducers of the uterine nervous excitability which terminates in premature expulsion, it is the mammary, vaginal, rectal, &c. In the instances where ovarian irritation is the cause of abortion, the cause of abortion is precisely the same, and acts in the same manner as the cause of natural labour, the only difference being that of the time. I have said that oftentimes more causes of abortion than one are in operation; thus uterine irritation may produce the irritability or excitability of the uterine nervous system, but before this irritability has actually produced expulsion, irritation of the rectum may step in and complete the abortion.

[After some physiological remarks insisting upon the reflex character of the above nervous phenomena, the author proceeds to the consideration of the *centric* causes as follows:]

2. But besides the causes of abortion involved in physical irritation of spinal excitor nerves, there are other causes in which the circulation and the spinal centre are chiefly concerned. There are certain erythematic conditions of the system in which abortion is very prone to occur. These are, the exanthemata, particularly smallpox and syphilis, in each of which a special poison is introduced into the blood: the pyretic state of the system which obtains at the commencement of the non-specific fevers and simple inflammations of the viscera, is attended with simi-

lar danger; the scrofulous diathesis, too, has been considered as prolific of abortion as the syphilitic; but, I believe, with far less justice. The inhalation of carbonic acid rapidly excites abortion, and during accidental or intentional poisoning by this gas, the ovum is often found expelled. During the celebrated *razzia* in Algeria, in which a great number of Arab women were suffocated in the caverns of Dahra, those of them who were pregnant were found to have aborted. Military histories offer examples of the same kind in other countries. I believe the retention of noxious elements in the blood, in the albuminuria of pregnancy, to be a cause of abortion as well as puerperal convulsions. There are also certain specific agents, as the essential oil of savin and the ergot of rye, which, if persisted in, are adequate to cause abortion; and, lastly, all the agents recognized in toxicology may cause abortion, as well as the destruction of the parent, when administered during pregnancy. In all these instances, the blood is the medium by which the exciting agent is conveyed to the spinal centre. They are precisely similar to the artificial abortion which may be excited in the lower animals by direct mechanical irritation of the spinal marrow.

Another important cause of abortion, acting through the spinal centre, is *emotion*. This cause, unlike those which reach the spinal centre, by the blood, is purely *psychical* in its nature. The influence of emotion in causing the uterus to evacuate its contents, is as undoubted as the influence of emotion upon the stomach or upon the rectal and vaginal sphincters. But, as in the case of uterine excitomotor action, ordinary emotion does not affect the uterus instantaneously. Time is required for the effects of emotion to develop themselves into uterine excitability. The rapidity with which emotion affects the uterus is proportionate to the intensity of the emotion. A violent fit of anger, serious fright, or intense grief, may lead to abortion a few days after the violence of the emotion has disappeared. During religious persecutions women have aborted suddenly at the stake; and here the emotion produced by excessive terror would probably be the chief cause of the accident. Thus emotion may, under extreme circumstances, act upon the uterus, and produce abortion, even more readily than ordinary excitomotor causes.

[In the history of abortion, the author considers that there has been too general a tendency to attribute abortion to a universal cause; he alludes more particularly to the views of Dr. Bennet and Mr. Whitehead, already mentioned by us in a former volume, without, however, meaning to undervalue their researches.]

ART. 84.—*On Retroflexion of the Womb.* By Mr. HENSLEY.

(*Prov. Med. and Surg. Journal*, Jan. 12, 1848.)

[Until comparatively recent times, the above-named displacement of the impregnated womb has been but little known, and even now its existence is either unknown or disbelieved in by the majority. Among the latter we confess that we were numbered until very lately, when we had the opportunity of being convinced of the reality of the affection, through the kindness of Dr. Protheroe Smith, who has contributed much to its elucidation. The affection has also been the subject of researches by Dr. Simpson, of Edinburgh, and indeed it is chiefly by the aid of his uterine sound that a correct diagnosis can be established. The symptoms are thus laid down by Mr. Hensley (see Report):]

In some cases no appreciable symptoms are produced, except perhaps a greater flow of the menses, and a greater tendency to abortion in the married female; whilst in others the symptoms are exceedingly distressing and complicated. It is, in most cases, difficult to trace the first origin of the affection; but in some instances, in which diligent inquiry has succeeded in doing so, the patient would appear to have been cognizant of some depression or falling down of the body of the womb, sometimes occurring suddenly, in other instances more gradually progressing—in the former, producing alarming sympathetic affections, as nausea and vomiting, and actual syncope, together with more or less pain referred to the groin or sacrum. The retroflexion, increasing or becoming permanent, produces some pain and difficulty, or frequency in micturition, though it never leads mechanically to retention of urine. The patients complain, likewise, of a dull, aching, constant pain in the sacral region, probably from the pressure of the

fundus uteri on the sacral nerves. The pain shoots down one of the thighs, and there is a sense of weight in the rectum, much increased by the act of defecation. If the disease is not recognised, more serious symptoms appear. Menstruation becomes painful and more profuse, and clots and shreds are voided; in short, dysmenorrhœa is set up. The general health, at the same time, suffers more or less; the stomach becomes disordered, the bowels constipated, the spirits depressed, and hysterical symptoms are apt to occur. These symptoms, though they do not prove the existence of displacement, warrant an examination per vaginam, by which alone the displacement can be determined and rectified.

In examining a case of retroflexion during life, the finger reaches a firm, globular mass, situated behind the cervix uteri, between the rectum and vagina. This is the fundus uteri bent downwards and backwards. The os uteri, instead of being tilted upwards and forwards, as in retroversion, is little, if at all, removed from its natural situation. At first we may not be able to determine this globular mass to be connected with the uterus at all. It may appear to be merely a scybalous accumulation in the rectum; hence we should, if possible, before examination, exhibit an aperient. In other cases, the tumour may be too high to trace its continuity. The exact situation may be traced per rectum.

It is, however, by the use of the uterine sound that we can obtain sure and valuable information of the displacement of the womb. In a case of retroflexion, on passing the instrument in the natural direction upwards and forwards, it becomes almost immediately arrested; but on turning its point in the contrary direction, backwards and downwards, it will pass readily along the cervix uteri, and then glide downwards and backwards to its full extent of two inches and a half. The point can now be felt distinctly in the centre of the tumour, through the posterior wall of the vagina, or the anterior of the rectum; thus proving it to be the fundus uteri in this unnatural position. Nor is this all. By turning the instrument gradually and gently round, so as to bring the point upwards and forwards, at the same time assisting the elevation of the fundus with the forefinger of the left hand, we shall find that the tumour disappears, it can no longer be felt, the fundus is restored to its natural situation, and retained there by the sound without it. The patient will often be immediately relieved from the constant pain and uneasiness from which she has previously suffered in the sacral region.

The examination and passage of the sound produce in many instances little or no pain, until we elevate the fundus, when the instrument, pressing on the ovary, which we shall afterwards see is extremely apt to become congested and inflamed, in consequence of the displacement, occasions severe pain, which, however, immediately ceases on our completing the restoration. In the examination per rectum, the pressure of the finger on the fundus above occasions no pain, but if we elevate it, the patient immediately complains; and by passing the finger beyond the depressed fundus, we can discover the exact seat of pain to be the posterior and upper part of the fundus, in the situation of the ovary, which we can often feel as an oval body. These last symptoms are dependent on the inflammation of the ovary, and cannot, therefore, be regarded as essential to retroflexion of the uterus, but as the consequence of a complication. It occurs, however, sufficiently often to render it advisable in all cases of oophoritis of long standing, to examine carefully into the position of the uterus.

[The predisposing causes of retroflexion are stated to be congenital malformation, relaxation of the tissues, frequent abortions. The exciting causes are accumulations in the bowels, falls, violent efforts, &c. Mr. Hensley next remarks upon the serious consequences likely to ensue if the disease is not recognised; such as engorgement of the fundus, congestion and ulceration of the cervix, inflammation of the ovary, and possibly development of fibrous tumour. The treatment is alluded to as follows:—]

In the first place, the causes should be removed; the bowels must be unloaded, and kept gently open by saline aperients; the general health improved by alteratives and tonics; local engorgements relieved by leeches applied to the anus, or to the os and cervix uteri, followed by the warm hip-bath. The fundus must then be replaced by the uterine sound, and the patient enjoined to remain in bed on the side for some days. If the fundus remains in its proper position, so much the better; astringent injections will be all that is required. If otherwise, the uterus

must be again restored; and perhaps, by keeping the sound a short time in it, we may overcome the tendency.

Should this means fail, we must employ the uterine supporter devised by Professor Simpson, an instrument which consists of a metallic or ivory pin, the length of the uterine cavity (two inches and a half), fixed in a disc or button, on which the os uteri rests, connected with and kept in position by a little frame, resting on the mons veneris, and which is properly fastened by tapes. Dr. Rigby improved this instrument by making the pin flat instead of round, and broader at the extremity, so as to adapt it to a larger surface, and by employing ivory instead of metal. Dr. Simpson had removed the objection of corrosion being produced by the secretions, by having the metal electro-gilded. The instrument should be adapted while the patient is in bed, and she should be kept quiet for some days, till the uterus becomes accustomed to its presence. I have known peritonitis induced by the neglect of this precaution, the patient having walked home some distance. Where, however, the patient is cautious in her movements, and disposed to follow the directions of her medical attendant, the instrument may be worn for months without inconvenience, and excites less irritation or discharge than the ordinary pessaries. The instrument is generally required to be worn a month or six weeks to effect a cure; after wearing it a short time, the patient is able to take moderate exercise.

Dr. Simpson has another instrument for the same purpose; it is a species of pessary, to which he has fixed a hinge, by means of a spring, like the blade of a knife; but this I have never used nor seen.

ART. 85.—*Retroflexion of the Uterus*.—Dr. Beatty remarks that the part of the uterus at which this deflexion takes place is that at which the neck and body of the organ join; and the angle at which the body is bent upon the neck varies, being sometimes very acute, and at others more obtuse. The displacement is most commonly the result of pregnancy; it could scarcely, if at all, occur during gestation, owing to the fulness and tension of the uterus; but in most cases it occurs subsequently to delivery. Velpeau saw fifteen cases in which it occurred in the unimpregnated uterus, but after parturition. Dr. Davis is of opinion that this incurvation may have occurred congenitally, as the effect of an originally imperfect development, or as a result of disease, either of the uterus itself, or of the organs in immediate contiguity to it; but he gives no cases of either kind. This displacement is very different from retroversion, in which the os and cervix are thrown upwards; but in retroflexion these parts maintain their natural position, while the fundus is thrown downwards. The time at which this displacement occurs is most probably immediately after delivery, when the uterus is still large, but soft and pliable. It is likely, however, at the time of its occurrence, because the very urgent symptoms do not manifest themselves until the woman rises from her bed, and resumes her usual employments; then it is that gravity causes the pressure to be felt by the surrounding viscera, and the symptoms declare the nature of the malady. It generally happens, however, that the sensations are endured for a long time without complaint, in the hope that they will subside as the woman regains her strength. The organ, by this delay, becomes fixed in this unnatural position; a certain amount of chronic inflammation alters its tissue, and moulds it into its new shape, rendering all attempts at its restoration alone by mechanical means fruitless. A more favourable prognosis may be formed when the cases are recent, from the ease with which they can be rectified. The means to be adopted are those employed to restore a retroverted uterus; and, after the organ has been placed in its proper position, great care should be taken to keep the patient lying as much as possible on her face, until the uterus has shrunk into its original size. Some practitioners consider chronic deflexions totally incurable by any efforts of art exclusively, without the aid of nature, as exerted during the changes and developments which are the special attributes of pregnancy. The altered conditions of the tissue and texture must be attended to, and the chronic inflammation must be combated by appropriate treatment. The symptoms attending this complaint are dragging pains in the loins, groins, and back, aggravated by walking, or making any violent effort. Pain and difficulty in defecation, and during the attempt a sensation is experienced as of something blocking up the passage, and

preventing the exit of the contents of the bowels. Sometimes there is an irritable state of the bladder, also menorrhagia and leucorrhœa to a considerable extent.

Dublin Quarterly Journal, Nov. 1847.

ART. 86.—*Ulceration of the Lining Membrane of the Uterus.—Pregnancy advancing to the Seventh Month.* By CHARLES CLAY, M.D.

(*Obstetric Record*, No. 7.)

[We have, in a former Volume (Vol. V, p. 242), recorded a case adduced by Dr. Ramsbotham, and considered by him so rare as to be only the fourth placed in the annals of science. Dr. Clay, in narrating the present case, takes the opportunity of expressing his belief that the disease is not so rare as is represented, and alludes to several references which he considers to indicate an acquaintance with its pathology. The case he now relates he considers unique in the fact of being accompanied by pregnancy.]

About the end of the year 1846, I was called upon to attend Mrs. M——, a lady who had been under previous treatment for two years, for uterine disease. Her history of the case was, that at first the symptoms were trifling, but afterwards gradually increased in severity. The case had been under the care of various medical men, all of whom agreed in opinion "that the os and cervix uteri were ulcerated." The principal symptoms before my attending the case were occasional and excruciating uterine pains; the uterus itself considerably enlarged, and of a soft spongy feel; its size twice that of a large orange; when pressed upon over the pubic region, was painful to the touch, which pain was increased when the os and cervix uteri were examined, per vaginam, by means of the finger. Whenever such examinations were instituted, they were followed by severe pain and increased discharges. These were irregular, and sometimes small in quantity, so that frequently for days together they appeared as if about to cease. Such cessation, however, was always accompanied by these concomitants, viz, enlargement of the organ, greater pain and tenderness, and a sudden discharge of accumulated matter. When this last occurred in any quantity, it was invariably streaked with blood. The character of the matter discharged was most decidedly pus, and highly fetid. The constitution suffered severely, the countenance was sallow, the body emaciated, and the patient so weak, that it was with great difficulty she could move about the room. Every method of treatment that could possibly be devised was practiced, so as to improve the constitution, and washes of various descriptions had been applied by syringe. But every attempt failed in affording any but the most temporary relief, and her case was looked upon as hopeless. Two eminent physicians in London were consulted, but with the same result, and her mind was prepared for the worst. She was in this condition when I was called in for the first time, and the case certainly appeared to be rapidly approaching its last stage. What rendered it still more lamentable was the depression of mind caused by a sudden transition from a state of comparative affluence to a very slender means of subsistence. This, combined with the cares attendant upon a family of small children, told terribly upon her weakened frame.

In order to labour under no misconception as to the real nature of the case, the speculum was applied, and the os uteri ascertained to be enlarged, malshaped, and of a dark livid colour. When the speculum was introduced, the parts were well washed by means of a powerful syringe, and a strong light brought to bear on the uterine orifice. Pus was distinctly seen issuing in considerable quantities from the os uteri, and occasionally streaked with blood. The os and cervix uteri were very tender and painful when touched, and much increased in size. It must be borne in mind that this case had already existed, in a greater or less degree, for more than two years. For my part, I imagined that nothing but palliative treatment could relieve the patient, and I accordingly ordered injections, containing nitrate of silver, sulphate of zinc, creasote, &c. &c. This treatment temporarily improved the nature of the discharge, but the pains could only be controlled by draughts of muriate of morphine, which, at the commencement, were given in doses of half a grain, and which were ultimately increased to four and five grains each, and even this was often found insufficient to alleviate her sufferings. The uterus was now increased to a considerable size, being soft and spongy to the

touch, excepting here and there, where a portion was felt harder and more unyielding, and presenting an uneven surface. This enlargement gradually increased, and with it increased the severity of the pains, their occurrence being more frequent, and their paroxysms more violent. Sometimes a jerking motion was experienced, and whenever this occurred, the pains came on with redoubled violence. The patient imagined that these jerkings resembled the motions of a child. The length of time, however, which the disease had existed, the extent and character of the discharge, its issuing direct from the uterine orifice, combined with the irritable state and unnatural form of the os and cervix uteri, the extreme tenderness on pressure extending over the whole uterus, its spongy feel, the patient's sallow countenance and emaciated system, and the excruciating pains endured, made such a supposition improbable, though the motions complained of, when tested by the hand, strongly resembled those of a fœtus. At this period I consulted my friend Dr. Radford, whose experience in female diseases is so well known. After a very long and careful investigation with the speculum, it was at length decided that extensive uterine disease undoubtedly existed, and from the amount of pus seen passing through the os uteri, it was pronounced to be ulceration of the internal lining membrane. The discharge was proved to be most certainly pus; and at a previous examination with the speculum, I passed a very thick wax bougie through the os uteri, and advanced it fully *four inches into the uterine cavity*. This attempt was followed by a large discharge of pus. But with all these untoward circumstances, on examining the enlarged uterus externally, and considering the jerking motions alluded to, Dr. Radford concluded, and I fully agreed with him, that a child was in utero. The stethoscope also detected the fetal circulation. The same palliative treatment was continued, and a strict watch kept on the case. As it progressed, the uterus enlarged, and the sufferings of the patient were piteous to behold. On the 21st of March, 1847, I was called hastily to her, and delivered her of a small emaciated child, apparently one of about seven months. It was, indeed, most painful to witness her sufferings during the dilatation of the os uteri, and the progress of the labour generally. The patient recovered from the effects of her labour very slowly.

The sequel of this case is equally interesting. The uterus is now, March 1848, considerably enlarged (about four times the size of a natural unimpregnated uterus), and the discharge of pus still continues, occasionally streaked with blood. But the uterine pains are no longer severe, and she has within the last three or four months relinquished the morphine. It would appear that suckling the infant, which is still alive, keeps in check the virulence of the disease; for if ever the breast has been more than usually neglected, the uterine pains soon assume an increased severity.

Some curious reflections arise from the consideration of this case. With an extensive existing disease of the very substance of the uterus itself of (up to this period) nearly three years' duration, with such excessive discharges, the question may well be asked, how could conception be accomplished? Even admitting this difficulty overcome, a greater still follows, the almost complete impossibility of its advancing, as in this case, to the seventh month. Then, in addition to all, the peculiar and interesting fact of the non-closure of the os uteri during gestation; which is proved, first, by the excessive discharge, seen by the eye with the assistance of the speculum, to pass through it; and, secondly, by a large wax bougie being passed through the os uteri, at least four inches into the uterine cavity. The features of this case are so extraordinary that it would be difficult to credit them, were it not for the evidence of different medical men, and those of considerable experience. No less than five physicians and surgeons were unanimous in their opinions regarding the nature of the disease; and Dr. Radford and myself were witnesses to the latter features of the case, viz. pregnancy and delivery.

ART. 87.—*Reduction of an Inversion of the Womb, dating from sixteen months and a-half.* By M. VALENTIN.

(*Revue Médico-Chirurg.* Nov. 1847.)

[The reduction of the inverted uterus, excepting it is accomplished speedily after the occurrence of the accident, is so rare an event that the following case will be read with interest:—]

On the 8th of April, 1846, a female, æt. 20, of good constitution, was delivered of her first child. The midwife removed the after-birth by pulling violently at the cord, which proceeding gave rise to intense agony. Immediately on its extraction profuse hemorrhage took place, followed by prolonged syncope. The three following days the patient complained of severe abdominal pains, and there was more or less sanguineous loss during an entire month, after which the discharges were replaced by a persistent leucorrhœa. The patient soon observed that a tumour projected from the labia, which was readily ascertained to be the inverted uterus. After the lapse of six months, this tumour had so diminished in size that it re-entered the vagina.

At the end of a twelvemonth the patient was in the following condition: discoloration of the skin and lips, general laxity of the muscular system, slight puffiness of the face; nervous headache, frequent small pulse, and extreme general debility. The sanguineous discharges from the vagina were pale. In the centre of the upper part of the vagina a pyriform tumour could be felt, of the size of a pullet's egg. An annular ring pointed out the encirclement of the os uteri. Seen with the speculum, the mucous membrane appeared red and bleeding. Previous to any treatment, absolute rest was enjoined, with tonics and nutritious diet.

The reduction was accomplished as follows: after several months devoted to the recruiting the strength, on the 15th of August, 1847, the vagina was dilated by sponge tents, and the female was placed on the edge of the bed, as for the application of the forceps. The left hand of the operator then grasped the hypogastrium, the uterus itself was seized by the fingers and thumb of the right hand, and pressure made; but the screams of the patient caused the operation to be for the present abandoned.

On the 26th another attempt was made, with the aid of ether inhalation. The patient being rendered insensible, the same manipulations were gone through; but, as before, the uterus was altered in form, without the fundus yielding as was wished. The attempt was persisted in for ten minutes without progress, when etherization was carried to the extent of inducing relaxation of the sphincters. At this moment the collapse of the system was complete, and the uterus partaking of the relaxation, the fundus allowed itself to be depressed under the finger, until at length it became suddenly restored to its normal state. In order to assure himself that the reduction was complete, the operator introduced his finger into the uterine cavity.

The patient had felt no pain during the operation, but complained of soreness over the pubes when she recovered her sensibility. (Laudanum cataplasms to the abdomen; low diet.)

27th. The pain extending to the sacrum; pulse frequent. (Vs. ad 3x; hip-baths.)

28th. Pulse less frequent; pain less. (Leeches; hip-baths.)

From this time the patient went on favourably; and on the 20th of October went into the country.

ART. 88.—*Case of unavoidable Hemorrhage—Successful Operation of Transfusion.*

By Dr. WALLER..

(*Medical Times*, Jan. 1848.)

The following interesting case occurred in the practice of Mr. Greaves. Hemorrhage appeared to an alarming extent in the eighth month. The patient appearing in a desperate state, Dr. Waller's assistance was requested. He found her in a very unpromising state, with a completely blanched countenance, pale and livid lips, cold extremities, laborious respiration, and a pulse scarcely perceptible; the general surface of the body was also cold. In short, everything indicated approaching dissolution. Stimulants had been freely given, but they failed to excite even a temporary rally. The vagina was filled with coagula; and, as the hemorrhage appeared to have ceased, he did not think it advisable to disturb the clots in attempting delivery. Stimulants were again had recourse to, but with no better effect. The symptoms of exhaustion increased, and nothing but transfusion seemed, under these circumstances, to hold out the slightest chance of relief. Mr. Greaves concurring in this opinion, preparation was made for its per-

formance. The first intention was to have laid bare the vein, and to have had all things in readiness, then to have delivered, and, provided there had been no improvement in the condition of the patient, to have transfused immediately afterwards. A little reflection convinced the operators that this plan would be fraught with danger; for, had syncope occurred, in all probability it would have been fatal. The operation was, therefore, at once commenced. When about five ounces of blood had been introduced, the amendment was evident; the pulse was more perceptible, and the countenance assumed a somewhat better aspect. The blood now flowed very sluggishly from the arm of the female who supplied it; it was, therefore, determined to wait awhile and watch the effects, nourishment and stimuli being administered occasionally. The rally continued for about two hours and a half, when the female again began to sink, and jactitation supervened; gruel, with brandy, was given without any benefit; the pulse was again but just perceptible, and the body getting cold. Dr. Waller again injected about four ounces of blood from the same individual who had previously supplied it; but this time the symptoms did not improve. The stream issuing from the punctured arm was so languid that it was not thought right to proceed, and a fresh subject was sought to furnish them with a better supply. The husband of the patient, being in the room, came forward to their aid; he looked rather pale, and, therefore, they gave him a glass of hot spirits and water, and then opened a vein, from which the blood flowed in an impetuous stream. The first injection of about two ounces produced a marked alteration in the pulse; it became decidedly perceptible. When nine ounces had been injected, the countenance was much improved; there was even a slight appearance of colour in the cheeks, and pain in the arm was complained of. Four ounces more were introduced, when all symptoms of immediate danger vanished. There was no faintness afterwards; the surface was warm; the pulse steady, about 100 in the minute; jactitation ceased; and nourishment was retained on the stomach. The only complaint was of excessive fatigue, with an inclination for sleep; there were also a few "grinding pains." Dr. Waller visited her again in about an hour and a half. She had been dozing, and was extremely tranquil; reaction was perfect, and there was no hemorrhage, no tumult in the circulation. He now left the case in the hands of Mr. Greaves, who afterwards informed him that, after a sleep of some hours, the pains increased, and he felt a portion of detached placenta in the vagina; this was expelled by the natural efforts. A dead child soon followed, the remainder of the placenta coming away an hour afterwards, without hemorrhage. The mother recovered.

[The failure of the second injection from the original person to rouse the patient when the "stream issuing from the punctured arm was languid," and the instantaneous success derived from the freely flowing blood from the husband's arm, are suggestive of valuable propositions, which should not be lost sight of in practice.]

ART. 89.—*Case of Complete Antero-version of the Uterus during Labour.* By Dr. MULLER, Homberg.—The author having been called to a woman in the country, said to have been three days in labour, found the parts of the child unusually distinct on examination *ab externo*, while the most careful examination could discover no os uteri. The woman was small, and of a lax habit of body, and the child seemed only to be covered by the abdominal parietes. Our author diagnosed an abdominal pregnancy, which was confirmed by two older and more experienced men called in for consultation. The question of the Cæsarean section was already agitated, and anxiety as to what was to be done with the placenta already felt; when one of the advisers recommended that, before proceeding further, the os uteri must be found. After great exertion, it was discovered, on the fifth day of labour, lying above the promontory of the sacrum, and sufficiently dilated to allow the membranes to protrude, and the child to be distinctly felt. The difficulty was now solved. The woman was placed on her hands and knees, the uterus then raised by a towel, the membranes ruptured, and the child extracted by the feet. Both mother and child did well; and the latter is now grown a woman.

Casper's Wochenchrift, Feb. 1847.

ART. 90.—Case of Abdominal Pregnancy, with Suppuration and Extraction of the Fetus through the Abdominal Walls. By Dr. DUCKERT.

(*Casper's Wochenschrift*, and *Monthly Journal*, Nov. 1847.)

A female while pregnant was tossed by an ox, and fell violently to the ground. Three hours after, she was found with a pale countenance, cold skin, and other symptoms of collapse. The abdomen was tender, and the fœtus could be distinctly felt through the abdominal walls on the right side. On external examination, the os uteri was found closed, and the vagina was pushed to the right side. The patient, during her pregnancy, had frequently suffered from pain in the abdomen. Under these circumstances, it was at first supposed that hemorrhage had occurred in the peritoneal cavity, but the symptoms increasing, an abdominal pregnancy was ascertained to exist. The hemorrhage from the vagina became more and more watery, and continued three weeks. An abscess was subsequently discovered below the umbilicus, and an incision being made into it, a fœtus was seen presenting and removed, together with a putrid placenta. No very great hemorrhage ensued, and the wound was brought together by sutures. The discharge at first was considerable, and very fœtid, but was soon succeeded by that of good pus. The fever was of a low type, but gradually disappeared under the use of stimulants and tonics. By the end of the year, the wound was completely closed.

ART. 91.—Case of Interstitial Pregnancy. By M. PAYAN.

(*Gazette Médicale*, No. 43, 1847.)

An unmarried female, æt. 32, had arrived at the third month of her second pregnancy, when she was suddenly seized with abdominal pain and thirst.—Leeches were applied, but prostration and collapse gradually ensued, and she died in the course of a few hours. The suspicion having been excited that abortion had been intentionally induced, the body was inspected by order of the authorities.

A large quantity of blood, partially coagulated, was found in the peritoneal cavity, and covered the womb. At the upper part of this organ, a semi-transparent pouch presented, which contained a fœtus. The vagina was healthy. The os tinctæ admitted a finger.

The womb was found to be of the size usual at the third month. When cut through longitudinally, its cavity was seen to be of proportionate dimensions, but void, and lined with decidua. Above the uterine cavity was found another, which occupied the left side of the fundus, near the Fallopian tube; but it could not be ascertained that the tube opened into it. It did not, however, communicate with the proper uterine cavity. This second cavity was formed in the thickness of the fundus uteri, the tissues of which were stretched to that degree, that they became almost diaphanous. The cavity contained a fœtus of three months.

Although the hemorrhage into the abdominal cavity was readily explicable on the supposition of a spontaneous rupture of the fœtal cyst, two of the medical witnesses advanced another opinion. They maintained that an instrument had been passed into the womb, which had perforated the fundus, and thus, through this perforation, the ovum had been forced by the contractions of the uterus. The ovum was, in their opinion, mistaken by M. Payan for a fœtal cyst.

M. Payan supported his view of the case, that it was an instance of interstitial pregnancy, and opposed the idea of perforation upon the following grounds:—1st, that if the ovum had ever been in the uterine cavity, it must have been injured by any instrument which had pierced the fundus uteri; such, however, was not the case; 2d, because, if the ovum had been expelled from the uteri into the abdominal cavity, the placenta would necessarily have been detached, in which case, hemorrhage per vaginam would have ensued.

ART. 92.—*Spontaneous Rupture of the Uterus before Labour.* By THOMAS F. BROWN-BILL, Esq., Surgeon to the Salford Workhouse.

(*Prov. Med. and Surg. Journal*, Dec. 29, 1847.)

M. A. Glover, æt. 28, was of rather short stature, well proportioned, and had a healthy appearance. She had been married about eight years. In ten months after marriage, after an ordinary labour of about nine hours' duration, she gave birth to a full-grown female child, which lived about four months. Soon after labour, which I understand was quite natural, she was seized with convulsions, followed by delirium, &c., which, continuing for a week or ten days, subsequently resulted in an attack of puerperal mania, for which she was afterwards admitted into the Manchester Workhouse. Here she remained about two months, and as no improvement had taken place, was then sent to Lancaster Asylum, whence, having been confined seven or eight months, she was discharged cured, and from that until the present time has enjoyed uninterrupted good health, having been separated from her husband during most of the time since her last confinement. She again became pregnant, and was admitted into the Salford Workhouse on the 4th of November last, in order to lie in.

She stated that in the beginning of the seventh month of gestation, whilst hanging out some clothes, she received a fall, which shook her violently, but did not cause her, either then or afterwards, any particular pain. On the 20th of November, at 6 A. M., after having passed a restless night, with occasional slight uterine pains, she began to vomit. This was followed by several pretty strong pains, during one of which she experienced (to use her own expression) a severe crack in the back, with a feeling of something suddenly giving way in her inside, which was immediately followed by a discharge of liquor amnii from the vagina. The midwife, who was an intelligent and experienced person, was accordingly sent for, and was soon in attendance. She found, upon examination, the os uteri nearly closed, hard, and incapable of admitting the point of the finger; there was a slight discharge of a brown colour from the vagina; the patient had vomited the contents of the stomach, and the pains had altogether subsided. Under these circumstances she left her, and found, on her return at 3 P. M., that she had had no pain during her absence; the os uteri was lower down, and more yielding, though not in the least dilated, and a slight discharge of water, tinged with blood, escaped whilst making the examination. She had not slept nor felt the motion of the child since. Soon after, the waters broke. A dose of castor oil was now ordered.

On visiting her the following evening, at the request of Mr. Roberts, the governor of the workhouse, I found the oil had been rejected by the stomach, and the vomiting had continued more or less to the present time, the matter at first being of a greenish-yellow, and afterwards of a chocolate colour; labour had not in the least progressed, the os uteri remaining as before, if anything, more contracted; had no pains; complained of being weak and poorly, and, although several opiates had at short intervals been administered, she had as yet not slept, and, with a feeble pulse, her countenance now began to assume an anxious expression.

Nov. 22d. About 11 A. M., she began to doze for short periods, but this state soon gave way to extreme restlessness, almost incessantly requiring her position to be altered. She now complained of severe pain in the middle of her back, and her pulse was evidently sinking. Between one and two o'clock her breathing became laborious, her finger-nails turned livid, a continued gasping followed, and in this state she died.

The body was inspected twenty-four hours after death, in the presence of several medical friends, and Mr. Roberts, the governor. The abdomen was found to contain a large quantity (about two pints) of dark-coloured uncoagulated blood, probably diluted with a portion of the liquor amnii, and this being partially removed, the first object that presented itself, entirely excluded from the womb, and partially covered by the omentum and small intestines, was a full-grown male child, that had evidently been dead several days, the first stage of putrefaction having commenced. On partially removing the child, which lay with its left shoulder to the womb, a large rupture of this organ was observed, extending from the centre of the fundus posteriorly along its whole length as far

as the os uteri, leaving only a narrow rim surrounding it, and through which the child had escaped into the cavity of the abdomen. The length of the opening was about seven inches, and the uterus, which seemed perfectly healthy, was well contracted over the firmly-adherent placenta.

ART. 93.—*Cancer of the Uterus simulated by the Irritation of a Piece of Sponge.*—Dr. Mitchell relates the following instructive case. Mrs. P., æt. 26, a delicate anæmic woman, married two years; commenced menstruating at sixteen, and has been regular up to the last year and a half. When four months married, she had an abortion, and amongst other means employed to arrest the flooding, the vagina was plugged. She continued for a long time in a very precarious state, and has never been well since. She now (January 16, 1846) complains of great pain at the lower part of the abdomen, with constant pruritus of the vulva; but what distresses her most is the constant discharge of a dirty sanious fluid from the vagina, varying in quantity at times, but always increased during the menstrual period, the fetor being at all times unbearable. She has consulted several medical men, some of whom have pronounced it cancer. She is much emaciated, and in very low spirits, having tried a variety of remedies without benefit. The speculum has been used, and applications made to the part. On examining with the finger, the mouth of the uterus could not be detected at all, but a soft fleshy mass, occupying its place, and projecting over the cervix and into the vagina, quite insensible to the touch, could be felt. On introducing the speculum, a dark-coloured fibrinated body was brought into view. The end of an uterine sound was applied to it for the purpose of tracing its attachments, during which examination a small piece was detached. This piece was put under water, and found to consist of a minute portion of sponge, with a quantity of what appeared to be lacerated muscular fibre.

The after part of the treatment was very simple. Portion after portion of the mass was detached without much trouble, the whole being in a completely decomposed state, and only held together by the granulations from the uterus, which were very long and tender. The separation was attended with a small loss of blood. The pieces, when put together, weighed five drachms and a half. The vagina was syringed out frequently with warm water, and the surface of which the sponge had been applied touched three times with nitrate of silver, at an interval of four days between each application. At the end of a month the os uteri was quite normal, with the exception of a slight induration and puckering of the lips. The menstrual function has been naturally performed, and she is gaining strength and flesh. This lady continued to improve, proved pregnant in March, 1846, and was safely delivered at the full period.

Dublin Med. Press, Dec. 8, 1847.

ART. 94.—*On Phlebitis of the Brain and Meninges in Puerperal Women.*

By Dr. F. M. DUCREST.

(*Archives Générales de Méd.*, Nov. 1847.)

According to the author, this affection in puerperal women is of rare occurrence, only five instances of it having occurred among 259 cases in which the head was examined after death. In one of these instances, the affection was not accompanied by any other cerebral disease; in the others, it occurred in combination with cerebral or meningeal inflammation.

The first case was a woman, æt. 19, presenting the appearance and physical signs of phthisis, who was delivered of a male infant at the eighth month, and afterwards became affected with frequent pulse, and a peculiar tremulous motion of the eyelids, lips and tongue. At first, there was no other symptom; but on the seventh day after delivery, there was an increase of the affection, with delirium, headache, and some convulsive movements of the limbs. On the ninth day the pulse and respiration were accelerated, jaws locked, tongue dry, articulation imperfect, but intelligence apparently unaffected. There was great feebleness of all the limbs, and nearly complete paralysis on the left side. In a few hours the pulse fell to sixty, the respiration became slow and laboured; soon after she died. On dissection, the meninges were perfectly healthy; the cerebral hemispheres also healthy; but on section of the right side of the pons varolii, and the cerebral and

cerebellar peduncles of the same side, the vessels in the interior of these parts were found distended to the size of a large pin by firm, dark clots, which, when extricated, appeared as dark brown cylinders of above a centimetre (nearly half an inch) in length. Around these, the cerebral substance was of natural colour and consistence. The lungs were extensively tuberculated, and contained numerous caverns. On the right side of the uterus was found a quantity of pus, surrounded by a slate-coloured induration of the substance of the organ, two millimetres (one line) in thickness.

The second case was that of a woman, *æt.* 25, who was delivered naturally, but soon after was seized with pains of the hypogastrium and limbs. These were followed by shiverings, fetid diarrhoea, and colic pains. The milk was suppressed, and leech-bites on the abdomen suppured. On the ninth day, the pains being mitigated, she had severe cough, with crepitant rale at the posterior and lateral parts of the right lung. From the fourteenth to the seventeenth day, the right buttock swelled, and became the seat of lancinating pain; a large quantity of pus, with fetid gases and sloughs of cellular tissue, were evacuated by incision. In the meantime there had been watchfulness and delirium, with gradually increasing loss of intelligence, and moderate cephalalgia. She died on the twenty-seventh day. The pulse varied between 108 and 140, and the respiration between 28 and 48. On dissection, there was considerable subarachnoid effusion; the veins of the pia mater, on the convexity of the right hemisphere, were filled with firm, friable adherent clots, of a whitish colour, extending in some places into the cortical substance, and being darker in colour there and in the anfractuositities. The cortical substance was somewhat softened, and of a reddish colour; while cerebral substance not altered. The lungs contained some tubercles, and the lower lobe of the right lung was the seat of lobular pneumonia; several of the vessels were filled with partially-softened clots. The venous sinuses and lymphatics of the uterus were filled with pus; the broad ligaments were also infiltrated with pus. The cellular tissue between the sacrum and the left great trochanter was gangrenous, and full of pus.

The third case presented successively hypogastric pain and tenderness, with numbness and painful swelling of all the extremities, beginning with the right arm, in which she had been bled. The cerebral symptoms and progress of the case were very similar to the last case, with the additional symptoms of vomiting before death, which happened on the seventeenth day from delivery. On examination, the veins of the right arm were swelled, and filled with pus; the left lateral sinus of the dura mater contained a light-coloured clot, and the veins of the posterior and inferior parts of the left cerebral hemisphere entering into this sinus were distended with dark blood firmly coagulated. There was extensive softening of the posterior part of the left hemisphere, which contained in its vessels numerous small clots. The vessels of the uterus contained pus, as in the last instance.

The fourth case commenced two days after delivery, with intense headache, convulsions, and transient stupor. On her removal to the hospital, the headache continued, with slow, troubled utterance, tenderness of the abdomen, and fever. She was bled, and the blood presented no buffy coat. An hour afterwards she had a convulsion, in all respects like an epileptic attack, with coma, lasting for a quarter of an hour, and up to the morning of the next day, she had twelve nearly similar convulsions. The abdominal pain continued, and she had a shivering. The fourth day after delivery there were immobility, insensibility, and a contraction of the right limbs, with perpetual agitation of the left, afterwards plaintive cries, coma, stertor, resolution of the right limbs, continued agitation of the left; pulse irregular, 140. Death occurred next morning. On examination, there were clots in the sinuses of the dura mater, and ecchymosis on the surface of the left hemisphere; the vessels of the pia mater in the neighbourhood of this ecchymosis contained reddish clots; the pia mater, both externally and in the ventricles, infiltrated with pus. The lungs contained miliary tubercles. The cavity of the pelvis, and various parts of the peritoneal cavity, contained pus; the uterine tissue was healthy; some clots of blood were in the venous sinuses.

The fifth case occurred in a subject affected with extensive pulmonary disease, who was seized with headache, and most of the symptoms mentioned in the first

three cases, while yet undelivered, though at the full term of pregnancy. The morbid changes were in great part similar to those previously described; but the amount of softening of the cerebral substance was greater than in any of the others, and the number of veins occupied by the firm coagula smaller; so that this case seems more important, in reference to the peculiarities of the disease, than any of the preceding.

SECT. II.—DISEASES OF CHILDREN.

ART. 95.—*On the Theory of Spasmo-paralysis in Infants and Adults.*

By MARSHALL HALL, M.D., F.R.S., &c.

(*Lancet*, March 18, 1848.)

[The above term is applied by the author to an affection which must be well known to most practitioners, viz. a more or less permanent and apparently spasmodic contraction of one or more limbs, accompanied by a greater or less amount of atrophy and incomplete paralysis of the muscles. He observes:]

Paralysis may depend upon the exclusion of the influence either of the cerebrum or of the spinal marrow—that is, of both cerebrum and spinal marrow. Spasm can only arise from irritation of some part of the spinal system; but this irritation may affect the incident excitor nerves, the spinal centre, or the muscular nerves. Spasmo-paralysis is a term which I have adopted to express the varied combinations of spasm and paralysis which occur so frequently in practice.

Infants are often born with distortion of the foot or feet, and during growth a paralytic weakness and atrophy are conjoined with the spasmodic action of the muscle. A similar effect is sometimes seen to take place in infancy. In some cases of hemiplegia, spasmodic contraction of the hand and arm accompanies the paralytic attack. In other cases, a spasmodic contraction of the hand gradually takes place more remotely from the attack. What is, then, the theory of these cases?

Intra-uterine spasmo-paralysis.—How interesting would be a series of accurate cases and post-mortem examinations of the various congenital spasmodic and spasmo-paralytic affections, of cheirismus, and especially of podismus, in the varied deformities of club-foot. Is the cause of the calamity always of centric origin, or is it sometimes the reflex action of external cold, &c.? The class of intra-uterine diseases still requires renewed investigation; no part of it more than the affections of the nervous system.

Effusion over the hemispheres and at the base of the encephalon, and along the spinal canal, is too frequently the cause of irritation—pressure or counter-pressure on the spinal system—the diseases of the nervous system, which is endowed with excito-motor power. This irritation is the source of various congenital convulsive or spasmodic affections; it may be the cause of strabismus, laryngismus, &c., and of various distortions of the hands and feet. In the case of two brothers similarly affected, the tendo-Achilles was permanently contracted, with spasmo-paralysis of both legs. On the death of one, æt. 12, effusion on the cerebral hemispheres at the base of the brain, and along the spinal canal, was found in considerable quantity. The arachnoid was thickened, and over the lateral portion of the hemisphere was converted into a thin layer of bone.

Of spasmo-paralysis in infants and children.—Spasmo-paralysis in infants and children is of centric and of ex-centric origin; the prognosis of the former being, of course, far more formidable than that of the latter.

Teething, and gastric and intestinal irritation, and, I suspect, exposure of the naked surface to the cold, are the causes of the reflex or ex-centric forms of this malady. From such causes I have seen hemiplegia of the arm, or of the leg, or of both; and the proof that the affection was of reflex origin was a very happy one—viz., speedy recovery.

The event, however, is not always so fortunate.

Sometimes both legs are affected, and this affection is sometimes more observed in one leg than in the other; sometimes the spasm, sometimes the paralysis, pre-

dominates; and sometimes one leg is affected with paralysis, whilst the other is affected with spasm-paralysis.

Spasmo-paralysis in the adult.—But of all the cases which have come under my observation, none have been more replete with interest and anxiety than spasm-paralysis occurring in the adult period of human life.

It is well known that the epileptic convulsion sometimes leaves one arm, one leg, or one side, paralytic or hemiplegic, in a greater or less degree. If the seizures were not to be repeated, I imagine this paralysis would frequently subside, being the effect of shock, and of the common cause or causes of the convulsion and of the hemiplegia, which is therefore not permanent. But if the shock be repeated, the paralysis may be permanent, although the convulsion subsides.

In one most interesting case, a lady, æt. 35, was seized with violent convulsion of the left side of the face, and of the left arm, the leg being unaffected; when the convulsion ceased, the face and arm were left extremely, if not perfectly, paralytic. A degree of amendment took place; but the convulsions returned, occupying the same seats as before, and, on ceasing, again left the face, arm, and hand absolutely paralytic.

This lady had once had phlegmasia dolens after parturition, and this leg again became swollen. But the cause of the attack of convulsions seemed to be discovered in the condition of the intestines; for these convulsions were relieved by purgative medicines, but were excited if those medicines acted too violently.

From the paralysis left by this serious attack, or repetition of attacks, the patient recovered completely—an additional proof that the affection had, like many cases of epileptic seizure, arisen from some cause ex-centric to the encephalon or spinal marrow. And how invaluable is this fact, in reference both to our prognosis and treatment!

Indeed, I may here observe that spasm-paralysis is in every respect a disease of less hopeless character than pure paralysis, inasmuch as the irritation of an organ is a less severe affection than its destruction. The diagnosis or detection of the cause is the first great object of the physician, and especially the determination of the question, whether that cause be seated centrally or ex-centrally.

In one case, which occurred in a member of our own profession, after repeated threatenings supposed to be apoplectic, severe spasm-paralysis supervened, and remained permanent. Bleeding had been resorted to constantly as the preventive. It ought, I believe, to have been decided, but not too severe, antacid aperients, with a strict attention to the diet, which should not have been of a mere vegetable, but of a light and digestible character.

There was, I believe, more of the epileptic than of the apoplectic in those threatenings. Is there any physical lesion? Is the case, or was the case, one admitting of recovery? How deeply interesting are all these questions!

It is plain that the new topic—new because now viewed distinctly—of spasm-paralysis will assume an important position amongst the objects of the physician's studies.

I have two patients under my care at this time, with podriismus, occurring at the ages, in one, of 25, in the other, of 45. Both are females. In the first, the right foot is drawn upwards and inwards, and so severely, as to induce great tenderness and swelling of the outer ankle. Various symptoms of nervous origin are conjoined with this deformity of the foot. In the other, the tendo Achilles in each leg is tense, and the toe only, and not the foot, much less the heel, can be put to the ground. In this case almost every article of food or medicine is rejected by vomiting.

I do not believe that either of these cases is hysteria. There is no other symptom of hysteric character, and the temperament in both patients is staid and sedate.

Conclusion.—From the recent progress of the physiology of the nervous system, we are now enabled to conclude—

1. That *paralysis*, pure paralysis, may be an affection either of the cerebrum, the spinal marrow, or the nerves; but
2. That *spasm* must be an affection of some part of the true spinal system; and
3. That spasm-paralysis must at least involve in it an affection of the true spinal system, either primarily or secondarily.

There is only one exception to this last rule: it is the case of severe hemiplegia,

in which, from the mere facts of the severing of the influence of volition, and the normal or physiological action of the spinal marrow—the source at once of the irritability of the muscular fibre and of tone—the affected hand frequently becomes spasmodically flexed.

Here I conclude this brief paper. I think I have clearly shown in it, once more, how important, how essential physiology is to the physician, and pointed out a distinction to be carefully drawn between paralysis, and spasm, and spasmoparalysis, as at once a guide to our prognosis and our treatment.

ART. 96.—*On the Convulsive Affections of Infancy.* By Dr. MARSHALL HALL.

(*Lancet*, July 12, 1847.)

[In a paper recently read before the Medico-Chirurgical Society, the author has made the convulsive diseases of infancy the subject of lengthened and minute description. Our space will not admit of the reproduction of the entire communication, which, indeed, is not necessary; for we do not see that any new fact or elucidation is added to those which the author has some time since published in his valuable work on the "Disorders of the Nervous System." Of the practical part of the paper the most interesting are the two following extracts:]

Diagnosis.—The diagnosis in the convulsive diseases of children is—

1. That of the kind or origin of the disease, and especially that between the *centric* and *ex-centric* affection.

2. That of the form of the disease, and especially that of the different partial and general convulsive affections; for it may be so partial as to consist of one symptom only, as strabismus, laryngismus, or it may be general.

In the *centric* affection there are generally pain and cerebral symptoms, as affections of the sleep, temper, and senses—wakefulness, fretfulness, intolerance of light and noise, and a peculiar contraction of the brow from the beginning.

In the *ex-centric* affection there is at the first, no cerebral symptom; all the phenomena are spinal; general convulsion must take place before cerebral symptoms are observed.

The diagnosis between that part of this affection designated laryngismus and laryngitis is founded on two circumstances: 1st, the transitory character of the symptoms in the former, and its permanency in the latter; and, 2d, the complication of the former with strabismus, cheirismus, and other convulsive or spasmodic affections.

The same principles of diagnosis distinguish spasmodic laryngismus from any paralytic influence or compression of the pneumogastric nerve on the larynx; in which case, there may be other effects of paralysis of the pneumogastric nerve, especially accumulated secretion in the bronchial tubes and pulmonary tissue, leading to cough and various "râles." The reality and the unbiassed diagnosis of this form of disease are still to be ascertained.

Laryngismus induced by bronchitis, or any inflammatory affection of the trachea or larynx, acting as an irritant on the incident laryngeal nerves, would be distinguished by the same absence of other spasmodic affection.

Prevention and treatment.—I now come to the last and most important topic of my paper, the prevention and treatment of convulsive diseases; to which, indeed, the views which have been given immediately lead, and in the course of which they serve as a torch to enlighten our path.

The first thing to be accomplished by the physician, as in all other cases in practice, is a full and accurate diagnosis of the disease, its form, its simplicity, or complexity; its effects; and especially whether there has or has not occurred general convulsion.

If the case be one of centric origin, which is the more rare, the original disease must, of course, be treated energetically. If it be of ex-centric origin, or reflex, which is by far the more frequent case, the excitant or excitants, whatever these may be, must be carefully sought out, removed, and avoided.

But, as a rule, in all cases, the influence of all excitants, all excitants of emotion, of reflex action, must be absolutely removed. For even in the centric affection it may be undue excitability only which is induced, and the attacks may depend upon external excitants.

The augmented arterial action within the gums and the alveolar processes must be subdued by deep, diffused, and repeated scarification of the gums, conducted with every precaution to avoid excitement of a mental kind.

The stomach should be emptied forthwith. This may frequently be readily done by irritating the fauces with a feather, or the finger; or a dose of *ipécacuanha* may be given; and then such diet should be administered, according to such rules, as may prevent the presence and delay of undigested matters in the stomach. A new and healthy nurse, or asses' milk, given by means of the bottle, are resources of the utmost moment.

The intestines should be promptly washed out by means of ample enemata of tepid water, and they should then be kept well relieved, gently free indeed, by means of mild but efficient aperient medicine.

I have great reason to suspect the existence of undue *acidity*, not only in the stomach, but in the course of the intestinal tube, in those cases; and I strongly recommend *antacid* aperients, such as a combination of the bicarbonate of potassa and the carbonate of magnesia, in the proportion of one fourth and three-fourths, in some proper aromatic or aperient vehicle, and repeated so as to produce the double effect of neutralising the gastric acid and moving the bowels.

The next object is to guard the little patient against every injurious impression from the external atmosphere. When the north-east winds prevail, or the air is cold or damp, the patient's bed should be surrounded, at intervals of about one foot, by *three* distinct curtains or tents of gauze, or of net: the air of the room should be protected from partial currents, be well supplied with hygrometric moisture, and be maintained at a temperature of 65° Fahr.

Every mental disturbance must be avoided; the approach of a stranger, the administration of the gum-lancet, and, not less, of medicine or other remedies, must be managed as carefully as possible.

The *sleep* should be *watched*; if it be disturbed by dreaming or starting, the infant should be gently awakened, and any sudden noise or light should be avoided; precautions necessary, indeed, at all times.

As stammering would scarcely exist without emotion, so the convulsive diseases of infants and children, especially those of ex-centric origin, would scarcely exist without emotion and excitants of reflex action; an aphorism of the utmost moment in practice, and admitting of great extension; for in this respect, with the affection under consideration, chorea, the paralysis agitans, tetanus, and even hydrophobia itself, may be ranked in some degree.

If laryngismus should exist and be extreme, the larynx being closed, water must be forcibly sprinkled on the face; the larynx is opened by the new excitant acting on other nerves and muscles, and inspiration is excited.

If apparent asphyxia have taken place, and this measure have been tried in vain, artificial respiration should be attempted; the chest and abdomen should be compressed, and the pressure should be suddenly removed. (I once witnessed asphyxia from this cause in a puppy. I applied my ear so as to examine the beat of the heart; the pressure induced expiration, and inspiration followed on its removal, and the puppy recovered.) Or the lips of the practitioner should be applied to the mouth of the infant, whilst its nostrils are closed, and its trachea pressed against the œsophagus. In a word, every measure should be adopted to which we have recourse in other cases of asphyxia.

If general convulsion be threatened, or have occurred, every precaution and measure should be adopted which can protect the cerebrum from congestion and its effects; the alcoholic lotion applied to the head, leeches, cupping, mercurials, and purgative medicines, fomentations and warmth applied to the feet, &c., must all be employed with promptitude and energy.

The secretions must be attended to; the bile, the urine, especially. If the former be deficient, the use of warm-water enemata should be doubly enforced. If the urine be affected with lithate deposits, the antacid aperients must be doubly enjoined.

The hydrocyanic acid, hyoscyamus, &c., may also prove useful.

ART. 97.—*The Treatment of Acute Hydrocephalus.* By Dr. WEST.

(Medical Gazette, July 16, 1847.)

[In the treatment of this disease, three remedies are chiefly mentioned—depletion, purging, and mercury. Of the former, Dr. West observes:]

With reference to depletion, you must not forget that the disease in which you are about to employ it, although inflammatory in nature, is inflammation in a scrofulous subject, and is in many cases grafted on a previous organic disease: such as those tubercular deposits in the membranes of the brain which I have already described to you. You cannot, therefore, hope to stop short the affection by a large bleeding; but your object must be to take blood enough to relieve the congested brain, and no more than is necessary for that purpose. Avoid precipitancy in what you do, and do not let your apprehensions betray you into that over-activity which is sometimes more fatal to a patient than his disease. If you feel any doubt as to the necessity of depletion, visit your patient again before determining on it, but do not delay that visit long. Order a dose of calomel, to be followed by some sulphate of magnesia, if, as is most probable, the bowels be confined, and return again in three or four hours. You may then find that the bowels have acted, and the sickness has ceased; that the head is cooler, and aches less; and that depletion is, for the present at any rate, unnecessary. Or the child's state may be the same, and you may still feel uncertain as to the right course. In that case, at once obtain the assistance of some other practitioner; this is the season when advice may be really useful, for it is only at the outset of the disease that its cure is possible. When convulsions have occurred, or coma is coming on, your treatment matters comparatively little, for the season of hope and the opportunity for action have then fled.

Though you may have determined on the propriety of depletion, it will be seldom found, even at the outset of the disease, that the character of the pulse is such as to warrant venesection. Local bleeding will generally answer every purpose, and the age and docility of the patient will determine whether it shall be performed by cupping or by the application of leeches. The former is more effective, and, from its shorter duration, often occasions less excitement and annoyance than the latter. In children who are very unmanageable, however, or in very young infants or children, the employment of leeches is always preferable. They should be applied to the vertex, because if put on the temples they hang down over the eyes, and terrify the child; if behind the ears, they are very likely to be rubbed off as it rolls its head from side to side. I will not say that this depletion is never to be repeated, but I believe that in by far the greater number of cases you will do no good whatever by its repetition, and the exceptional cases will generally be those in which very marked relief having followed the first bleeding, the symptoms of congestion of the brain appear to be returning twenty-four or thirty-six hours afterwards. If you do not see the child until the second stage of the disease is far advanced—till general convulsions have occurred, or twitchings of the limbs, or of the muscles of the face, an appearance of extreme alarm, or a state of alternate contraction and dilatation of the pupils show them to be impending, you must be exceedingly careful in abstracting blood. Under such circumstances, I have seen convulsions, to all appearance, induced, and the fatal course of the disease accelerated by a rather free, though by no means immoderate, loss of blood.

The value of purgatives in the treatment of hydrocephalus can scarcely be overrated; but they must be given so as not merely to obtain free action of the bowels, but to maintain it for some days. After having once overcome the constipation, you will secure this end best by giving small doses of purgative every four or six hours. The administration of a strong cathartic every morning will not answer this end nearly so well: for, independently of the chance of its being rejected by the stomach, you will find that the dose which sufficed the first time will not be large enough the second, and that there will be a constantly increasing difficulty in obtaining an evacuation. The nausea and vomiting, which at first stood in the way of your administering any medicine, are often so much relieved by depletion that the stomach will almost immediately afterwards bear a dose of calomel and jalap, or calomel and scammony, which may be repeated every three

hours until they act, while you at the same time endeavour to quicken their operation by the administration of a purgative enema. There is no use, however, in persevering with them if they excite sickness; and it is then better to give a single large dose of calomel in some loaf-sugar, and to follow it by a solution of the sulphate of magnesia, which should be repeated at short intervals. When a free evacuation has been obtained, the same salt, in combination with the nitrate of potash, will often keep up a free action of the bowels, as well as stimulate the kidneys to increased activity. These remedies may either be mixed with the child's drink, or be dissolved in water flavoured with syrup of lemon or of orange-peel.

Hand in hand with purgatives I would have you continue the administration of calomel; but I do not put faith in calomel alone, nor in the production of salivation as a means of curing hydrocephalus. I have seen children die whose mouths had been made sore by mercury, without any influence appearing to have been thereby exerted on the disease: and I recollect two who, at the time of their death, were in a state of most profuse salivation. Whatever good I have seen in these cases from calomel, has been when it was given in combination with purgatives, or when it produced a purgative effect.

Let me, however, again remind you that you may have hydrocephalus combined with tubercular ulceration of the intestines, and that in such a case diarrhoea may exist from the outset, or may come on after a mild dose of some aperient. Now and then, too, without such a cause, constipation is absent, while diarrhoea comes on occasionally in the far advanced disease. You must not, therefore, draw inferences as to the state of the patient too exclusively from the condition of the bowels.

Cold is likewise a very valuable agent in the treatment of hydrocephalus; but its application requires to be judiciously regulated. You will generally find it of service after depletion, for you have extracted blood on account of the febrile disturbance, and heat of the head, and other indications of congestion of the brain; in all of which cold will be a powerful auxiliary in subduing. So long as the signs of active congestion of the brain are present, cold will be of service; but it should not be employed independently of those symptoms which betoken the existence of that condition; nor can you hope to see any benefit result from cold applications to the head in the advanced stages of the disease. I need scarcely say that the application of cold with a shock, or the pouring cold water from a height upon the head, though a very valuable means of rousing a child from the state of coma into which it sinks in some cases from cerebral congestion, is wholly inapplicable in the coma of hydrocephalus. The functions of the brain are here not merely interrupted by the excess of blood in the organ, but they are abolished by the disorganization of its tissue, or the compression of its substance by the effusion of fluid.

In the management of children attacked with hydrocephalus, you must not forget that for the most part they are of feeble constitution, and that they will not bear too vigorous a diet. Just at first, indeed, while the febrile symptoms run high, and the bowels are unrelieved, or the sickness is urgent, the less the patient takes the better. Afterwards, however, it is desirable that he should be supplied with as much light and unstimulating nutriment as he will take; such, for instance, as arrow-root, or veal or beef tea, either of which will often remain on the stomach when most other articles of food or drink would be rejected.

In the treatment of many diseases you see physicians destroy pain by narcotics, and the question naturally suggests itself to you whether you may not sometimes venture, in the management of hydrocephalus, to mitigate, by their means, your patient's sufferings. The inquiry is one not very easy to reply to satisfactorily. I think, however, that there are two conditions under which you would be justified in trying the experiment of giving them. Sometimes the disease sets in with great excitement, and a condition closely resembling mania in the adult, symptoms which may have been ushered in by convulsions. In such a case, although the heat of head and the flush of the face may have disappeared after free depletion, and the copious action of purgative medicine, and though the pulse is feeble as well as frequent, yet the excitement may be scarcely, if at all, diminished. Here an opiate will sometimes give the relief which nothing else would procure.

Your patient will fall asleep, and wake tranquillised in the course of two or three hours. In other cases which did not set in thus violently, restlessness, talkativeness, and a kind of half delirious consciousness of pain in the head become very distressing as the disease advances, being always aggravated at night, so that your patient's condition seems one of constant suffering. But he is not able to bear any more active treatment, and, indeed, you have already emptied your quiver of such weapons. Under these circumstances, I have sometimes given a full dose of morphia, and have continued it every night for several nights together with manifest relief.

Another inquiry that you may put is, when are you to employ blisters? Certainly not at the beginning of the disease, when they would increase the general irritation, and do more harm than good. At a later period they may be of service, when the excitement is about to yield to that stupor which usually precedes the state of complete coma. They should then be applied to the nape of the neck, or to the vertex; and I am disposed to think the latter the better place, since, when applied to the neck, they often become displaced by that boring movement of the head which the child, in many instances, keeps up unconsciously. It is well, too, to remember that the skin, in hydrocephalus, is very inapt to vesicate, so that a blister will require to be kept on for ten or twelve hours—contrary to what ought to be your practice with children. Cases enough are on record, proving the utility of blisters thus applied, to render it your duty not to neglect this means.

Need I say that you must not think of treating a case of hydrocephalus throughout just in the same way as you did at its commencement? There is, if the disease do not run a very rapid course, a stage of weakness and exhaustion, often associated with a half comatose condition, though sometimes attended with a considerable degree of suffering which frequently precedes the sign of approaching death. The bowels are now sometimes relaxed, though oftener they continue constipated, because the nervous energy which kept up the peristaltic movements of the intestines is worn out. The powers of organic, as well as animal, life are palsied. This is the time for the administration of quinine, for the employment of nutritious broths and jellies, and even of wine.

ART. 98.—*On the Symptoms and Treatment of Spasm of the Glottis.*

By CHARLES WEST, M.D.

(*Medical Gazette*, Feb. 11, 1848.)

[The following remarks are extracted from one of Dr. West's valuable Lectures on the Diseases of Infancy and Childhood.]

Spasm of the glottis, which term I select as the simplest among many appellations that the disorder has received, usually comes on by degrees, and it is but seldom that its early *symptoms* are such as to excite the alarm of unprofessional persons. It does not often occur in perfectly healthy children, but an infant who is attacked by it has usually been observed to be drooping for some time previously, to have lost its appetite, to have become fretful by day and restless at night, and to present many of those ill-defined ailments which are popularly ascribed to teething. At length, after these symptoms have continued for a few days or weeks, a slight crowing sound is occasionally heard with the child's respiration. The sound is something between the hoop of whooping-cough and the stridor of true croup; it must be heard to be known, but when once heard is easily recognised. Usually it is just noticed on the child awaking out of sleep, but sometimes it is perceived during a fit of crying, or comes on while the infant is sucking. Now and then the first crow is very loud, and, by its resemblance to the sound of croup, at once alarms the family, but this is not generally the case; and its loudness increases in proportion as its return becomes more frequent. The spasm may have been excited by some temporary cause, and the sound which is its token may in that case not be heard again, but generally it returns after the lapse of a few hours or a day or two. It will soon be found, as its return becomes more frequent, that excitement induces it, or deglutition, or the effort of sucking, so that the child will suddenly drop the nipple, make a crowing sound with its breathing, and then return to the breast again. Throughout the whole course of the affection its attacks will be found to be more frequent by night than

by day; and to occur mostly either soon after the child has lain down to sleep, or towards midnight, when the first sound sleep is drawing to a close.

At first the child seems, during the intervals of the attack, in as good health as before, except, perhaps, that it is rather more pettish and wilful; but it is not long before graver symptoms than the occasional occurrence of an unusual sound with inspiration, excite attention, and give rise to alarm. Fits of difficult breathing occasionally come on, in which the child throws its head back, while its face and lips become livid, or an ashy paleness surrounds the mouth, slight convulsive movements pass over the muscles of the face, the chest is motionless, and suffocation seems impending. But in a few seconds the spasm yields, expiration is effected, and a long, loud, crowing inspiration succeeds, or the child begins to cry. Breathing now goes on naturally, the crowing is not repeated, or the crying ceases; a look of apprehension dwells for a moment on the infant's features, but then passes away; it turns again to its playthings, or begins sucking again, as if nothing were the matter. A few hours, or even a few days, may pass before this alarming occurrence is again observed, but it does come, and another symptom of the disturbance of the nervous system is soon superadded, if it have not, as is sometimes the case, existed from the beginning. This consists in a peculiar contraction of the hands and feet; a state which is likewise not unfrequently observed during infancy, without any spasmodic affection of the respiratory organs. It differs much in degree; sometimes the thumb is drawn into the palm by the action of its adductor muscles, while the fingers are unaffected; at other times the fingers are closed more or less firmly, and the thumb is shut into the palm; or, coupled with this, the hand itself is forcibly flexed on the wrist. In the slightest degree of affection of the part, the great toe is drawn a little away from the other toes; in severe degrees of the affection, this adduction of the great toe is very considerable, and the whole foot is forcibly bent upon the ankle, and its sole directed a little inwards. Affection of the hand generally precedes the affection of the foot, and may even exist without it, but I have never seen spasmodic contraction of the feet when the hands were unaffected. At first this state is temporary, but it does not come on and cease simultaneously with the attacks of crowing inspiration, though generally much aggravated during its paroxysms. Sometimes a child in whom the crowing inspiration has been heard, will awake in the morning with the hands and feet firmly flexed, although he may not have had any attack of difficult breathing during the night. At other times, though but seldom, this state will subside during sleep, while very often it is impossible to assign any reason for its cessation or return. The hands may be often unflexed by bending the fingers; but they resume their former position on the withdrawal of the force, and such attempts are painful to the child. Coupled with these carpo-pedal contractions, the back of the hands is sometimes swollen and livid, and occasionally there is slight puffiness about the face: in one case there was general anasarca.

The general condition of the child varies much during the existence of these symptoms, but it is always widely removed from health. The bowels are almost invariably disordered, constipation being more frequent than diarrhoea. Death sometimes takes place during one of the paroxysms, either by suffocation, or from the often-repeated difficulty of breathing, inducing a state of permanent congestion of the brain; general convulsion occurs, and the child dies comatose from serous effusion. Should the child escape these dangers, and no tubercular disease of the lungs or bronchial glands exist, recovery is almost sure to take place eventually.

[The causes which produce the nervous disturbance upon which the above symptoms depend, are laid down upon the system devised by Dr. Marshall Hall. The irritation, therefore, is stated to originate—1st, in the *trifacial*, in teething; 2d, the *pneumogastric*, from improper feeding; 3d, the *spinal nerves*, in intestinal disorder. These act through the medium of the *spinal marrow*, and the *inferior* or *recurrent laryngeal nerve*, and the *intercostals*. Respecting the great prevalence of irritation from dentition, Dr. West observes:]

The great share which dental irritation has in its production is shown by the age at which it generally occurs. Of 27 cases, 21 occurred in children between the ages of six months and two years. The various sources of irritation are not, however, limited to the period of dentition; hence the disease may be met

with before the commencement of the process, as well as after its completion. I have seen it in a child ten weeks old, as a consequence of improper feeding; in another, aged nineteen months, it followed the sudden suppression of long-continued diarrhœa; in a third, two years and a half old, it appeared to depend on cerebral congestion, the consequence of habitual constipation.

But, besides those cases in which spasm of the glottis is induced by irritation set up in some distant part, there are others in which the exciting cause is situated near the larynx. Dr. Hugh Ley observed several instances of the kind, in which the attack appeared to be due to the presence of enlarged and tuberculous cervical and bronchial glands.

The treatment of spasm of the glottis must be regulated by the nature of the exciting cause; and this, as has already been stated, varies much in different cases. In infants before dentition, it is usually induced by over-feeding, or by food of an improper kind. Our inquiries must, therefore, be at once directed to ascertain how the infant is fed; and supposing it to be still at the breast, other food must be interdicted. Spasm of the glottis, however, occurs much oftener in infants who are brought up by hand, or in those who have been weaned, than in children at the breast. In such cases, much pains are sometimes necessary, in order to ascertain precisely the kind of food that best suits the infant. Two parts of milk and one of barley water, sweetened with a little loaf-sugar, or equal parts of milk and a solution of isinglass, made of the thickness of barley-water, generally agree very well; but much caution must be used in the introduction of farinaceous articles into the child's diet. Asses' milk, which forms the nearest approach to its natural food, must sometimes be given till the child has decidedly improved; while, if it be puny, and do not appear to thrive, and the crowing inspiration continue undiminished, it may become absolutely necessary to restore it to the breast.

The state of the bowels requires no less attention than the regulation of the diet. The tendency to constipation must be combated, not by drastic purgatives, but by mild aperients. Castor oil often answers the purpose very well, but sometimes each dose of it nauseates a child for several hours, and then it is not desirable to employ it, if a daily aperient should be needed. Both senna and manna are apt to gripe, and if they be found on trial to have this effect, their use must not be persevered in. Few medicines act more mildly or more certainly in children than aloes; and the bitter of the compound decoction may be much concealed by extract of liquorice. The bulk of a medicine, however, often opposes a great difficulty to its employment in infancy, and, if that be the case, the powder may be substituted for the decoction. If slightly moistened, mixed with a little coarse sugar, and placed on the tongue, it will often be swallowed very readily. The habitual use of mercurials to overcome the constipation is not desirable; their employment is better limited to those cases in which the bowels are not only sluggish, but the evacuations unnatural in character.

The action of the bowels may be encouraged by rubbing the abdomen twice a day with a liniment composed of equal parts of soap liniment and tincture of aloes; or the bowels may sometimes be induced to act regularly in young infants by the daily employment of a small soap suppository. Enemata may also be employed for the same purpose, consisting either of warm water or gruel.

Sedulous attention to the diet and to the state of the bowels will sometimes effect a cure, but in many instances tonics may be employed with advantage, and probably none with such decided benefit as the preparations of iron. Removal to the pure air, however, or to the sea-coast, is often a tonic of greater power in these cases than all the contents of the laboratory, and one which you will find in some instances to be absolutely indispensable to the child's cure.

All these cares are not less needed in children in whom the process of dentition has already commenced. In them, however, the irritation of teething is often the exciting cause of the affection, and lancing the gums is frequently needed, in addition to the other treatment. The relief thus afforded is sometimes very striking, and the frequent repetition of the process may be necessary to diminish the swelling and tension, and to ease the pain of the congested gum. It is not, however, a proceeding to be adopted irrespective of all other considerations, simply because the child had begun to cut its teeth when the attack of spasm of the glottis came on. Dentition does not go on continuously from the time when the first tooth is

cut until the completion of the whole set; but there are regular pauses in the process, during which its advance is suspended for several weeks together. Thus, for instance, after the appearance of the incisions, there is a pause of several weeks or months before the first molar teeth appear, and then there is another cessation in the process before the child begins to cut its canine teeth. The spasm of the glottis, therefore, may come on during these pauses, and may be excited by some cause quite unconnected with dentition. Lancing the gums, too, is not well borne in every case, even when it may have appeared to be indicated, and I have more than once been compelled to discontinue it, on account of the pain and alarm which it excited bringing on a violent spasmodic seizure whenever I attempted to practice it.

In some instances the spasm of the glottis is associated with manifest uneasiness in the head. It has been suggested that in some of these cases the brain is kept in a constant state of irritation, owing to the deficiently ossified skull being too thin to defend it from injury, while, at the same time, it affords no adequate counter-pressure to check the over-distension of the cerebral vessels. I have seen one case that seemed to lend decided support to this opinion; and many others have come under my notice, in which the recommendation that a horsehair cushion should be made for the head to rest on, having a hole in its centre, so as to relieve the occiput from all pressure, has been acted on with manifest advantage. The supervention of attacks of spasm of the glottis, in a case of well-marked chronic hydrocephalus, would call for little change in the treatment, though it must evidently add much to the danger of the patient.

Symptoms of cerebral congestion are sometimes associated with this condition. They are seldom such as to call for active interference, but the tepid bath and neutral salines, with small doses of hyoscyanus, are often of much service in quieting the general excitement of the circulation, while the occasional application of a leech to the head may be beneficial, especially if general convulsions are beginning to supervene on the attacks of dyspnœa.

It is possible you may meet with a case in which active depletion is indicated, and under such circumstances you must not allow the consciousness that, as a general rule, it is inappropriate to prevent you from having recourse to it in such exceptional cases.

In the paroxysm itself but little can be done. Cold water may be dashed on the face, and the fauces may be irritated, or the finger passed down into the pharynx, so as to bring on, if possible, the effort to vomit, while at the same time the legs and lower part of the body may be placed in a hot bath.

ART. 99.—*Symptoms of Infantile Phthisis.* By Dr. WEST.

(*Medical Gazette*, March 24, 1847.)

The symptoms of phthisis in early life resemble, in many respects, those which characterise the disease in adult age, while the points of difference become less distinct as the child grows older, and cease altogether at puberty. During childhood, hæmoptysis is seldom witnessed at any stage of the affection; expectoration is rare, and the cough and colliquative sweats are comparatively slight. In many instances the child droops, loses its appetite, flesh, and strength, and complains of vague pains in the chest for many weeks before the cough excites any apprehension as to the seat of the disease. When the cough does come on, it is slight, short, and dry. The usual amusements fail to occupy the child, who sits about listless and fretful in the daytime, while the skin often grows dry and hot, and the lips become parched as night approaches; but there is so little definite in these symptoms, that they are not unfrequently supposed to indicate the existence of remittent fever, or to be due to the presence of intestinal worms.

It is of importance to bear in mind, that strumous dyspepsia is more frequent in childhood than in adult age, and that its symptoms may be all that marks the advance of phthisis until within a month or two of the patient's death. A definite commencement can almost always be assigned to an attack of remittent fever; and the great heat of skin, the rapid pulse, intense thirst, and delirium at night, are symptoms which will prevent our mistaking for it those slighter ailments which are experienced during the first stage of phthisis. The referring the

symptoms of incipient consumption to the presence of worms, is a mistake even less excusable.

Fluctuations take place in the child's condition, and a casual attack of bronchitis often seems to be the exciting cause of the aggravation of the pulmonary symptoms. The respiration now becomes habitually quicker than natural, and is often attended with wheezing; the cough grows more frequent, and lasts longer; but is still, in most instances, unattended with expectoration, owing to the circumstance that the child swallows those matters which an adult would spit up. The loss of flesh and decay of strength advance even more rapidly than the signs of pulmonary disease. Towards the close, the mouth becomes aphthous, especially in infants; but the alternation of diarrhoea and hectic sweats seldom or never takes place in the child.

In *bronchial phthisis* the symptoms deviate still more from those usually observed in the adult. Bronchial phthisis occurs in its best marked form between the ages of two and six years. Its symptoms, in many instances, first become distinct after some severe bronchitic affection, which either accompanied measles, or came on without apparent cause. By degrees the cough thus established becomes severer, returning in paroxysms not unlike whooping-cough. The respiration grows oppressed and wheezing; the face puffed and swollen; the veins of the neck appear distended, just as in patients with heart disease, and the superficial veins of the thorax become enlarged, as those of the abdomen do in ascites and mesenteric disease.

The fatal termination of bronchial phthisis usually takes place in consequence of the lungs being seriously involved in the tubercular disease, though life is sometimes suddenly cut off by hemorrhage.

[The author completes his account of the symptomatology of infantile phthisis by a lucid description of the difference in other auscultatory phenomena. We regret that we have only space for his recapitulation of the general characteristics, including those afforded by auscultation. The chief of these are:]

1. The frequent latency of the disease in its early stages.
2. The almost invariable absence of hæmoptysis.
3. The partial or complete absence of expectoration.
4. The rarity of profuse sweats.
5. The frequency of death from intercurrent bronchitis or pneumonia.

The most important peculiarities in the auscultatory phenomena are—

1. The smaller value of coarse respiration, prolonged expiration, and interrupted breathing.
2. The apparent or real exaggeration of both early and advanced disease of the lungs in some cases of bronchial phthisis.
3. The loss of the information to be derived from the phenomena of the voice.
4. The difficulty of detecting minute variations in the sonority of the chest.
5. The existence of dullness in the interscapular regions, together with moderate resonance in the upper parts of the chest, and tolerably good respiration there, which are characteristic of enlarged bronchial glands.

ART. 100.—*Symptoms and Treatment of Infantile Pleurisy.*

By Dr. WEST.

(*Medical Gazette*, Dec. 24, 1847.)

The main symptoms attending this disease, as well as the *physical signs* of its existence, are the same at all ages. There are, however, some circumstances peculiar to early life, which, unless you are on your guard, may serve to obscure the real nature of the affection. The history of a case of acute pleurisy in childhood, is generally something to this effect:—A child, previously in perfect health, is suddenly attacked with pain referred to the chest or upper part of the abdomen, so severe as to occasion it to cry aloud, perhaps attended, at first, with vomiting of a greenish fluid, accompanied with fever, a rapid pulse, and hurried respiration, interrupted by frequent short cough, which evidently occasions pain, and which the child labours in vain to suppress. After a few hours, the severity of the pain subsides; but the fever, hurried respiration and cough continue, and the child, though usually it looks heavy, and seems drowsy, yet becomes extremely restless

at intervals, and cries and struggles as if in pain, and violently resists any attempt to alter its position, since every movement brings on an exacerbation of its sufferings. The posture which it selects varies much; sometimes its breath seems disturbed in any other than an upright position; at other times it lies on its back, or on one side; but, whatever may be the posture, any alteration of it appears to cause much distress, and is sure to be resisted by the patient.

The probabilities are, that if you auscultate the chest of a child in whom these symptoms exist, you will have good breathing through the whole of one lung.—On the other side, the air will be found, most likely, to enter less freely, though unaccompanied with any moist sound, perhaps unattended with any morbid sound at all; or there may be on this side, a rough sound audible like a rhonchus, and for this you may very likely at first take it, though with more attention it will be discovered to be a friction-sound. A day or two later, you will probably detect a sound like that of bronchial breathing, as you pass your ear from above downwards along the posterior part of the chest, while the friction-sound will have disappeared; and still lower there will be an utter absence of all sound. The walls of this side of the chest, if their tenderness does not prevent you trying percussion, will yield a much less resonant sound than usual; while, at the same time, a distinct sense of solidity will be communicated to the finger.

I need hardly pursue the detail of other symptoms which are the necessary result of pleurisy, whatever the age of the person in whom it occurs. The diminished mobility of the affected side, the displacement of the heart, the bulging of the intercostal spaces, and the enlargement of the chest on the diseased side, are phenomena that take place under the influence of the same causes at every age, though their occurrence is less frequent in childhood than in adult age, since the effusion of fluid is more scanty.

The symptoms by which an attack of pleurisy is ushered in, point sometimes rather to the head than to the chest. The child is seized with vomiting, attended with fever and intense headache; it either cries aloud, or is delirious at night, or screams much in its sleep, and, when morning comes, complains much of its head, but denies having any pain whatever in its chest, while the short cough and the hurried breathing may be thought to be merely the result of the cerebral disturbance. The diagnosis of cases of this kind is sometimes very difficult, since auscultation does not always afford the information you might expect.—It often happens that no friction-sound is perceptible, and that you have no other indication to guide you aright besides the feebleness of the respiratory murmur on the affected side. The child, too, fearful to take a deep inspiration, fills neither lung completely, so that, to a great degree, you lose the information gained by the comparison of the breathing in one lung with that of the other. Still, the history of the case will do much towards preserving you from error. The onset of the illness has been far too acute, attended with far too much febrile disturbance, for a case of tubercular hydrocephalus, while many of the signs of cerebral mischief which might be expected in a case of simple encephalitis have not presented themselves. The heat of head is not greater than that of the rest of the surface; the cries with which the disease set in have not ended in coma. It happens but seldom that convulsions mark the commencement of the disease; but, if they had occurred at the onset, they have not since returned; neither twitching of the muscles, nor strabismus, nor retraction of the head is present; and, though the child may cry, as children when ill and fretful often do, at the curtain being undrawn, and the candle brought near it, yet there is no real intolerance of light. The dyspnoea, also, is too permanent, and the short, hacking cough too frequent, for either to be sympathetic of cerebral disorder.

The pain with which pleurisy sets in, is sometimes referred, not to the chest, but to the abdomen, and its commencement may be attended with vomiting and purging. Pressure on the abdomen, too, often causes a considerable increase of suffering, and you may thus be led to regard the case, not as pleurisy, but as intestinal disorder, with fever. In any such doubtful case, it is well to bear in mind that children may, after they can talk, describe the nature and seat of their sufferings very inaccurately; and if, as often happens in these cases, they refer the pain to the right hypochondrium, you should not forget that pain in that situation is, at all ages, much oftener connected with disease of the pleura than of the perito-

neum; and, lastly, that the increase of discomfort produced by pressure on the abdomen, may have been due to the additional impediment thereby offered to the already labouring respiration.

In most cases of pleurisy in childhood, careful auscultation will preserve us from error. Still, the information that it yields is more limited in the child than in adult age. The evidence afforded by the various modifications of the voice-sound are much less marked, owing to the feebleness of the voice in early life, while we cannot induce the child to speak several sentences, or utter several words in the same pitch of voice, in order that we may find how far the voice is altered. For the same reason, too, we cannot test the difference between the two lungs by the vibration of the voice perceived on applying the hands to either side of the chest—a means by which, in the adult, we are often assisted in determining between a solidification of the lung from pneumonia, and the distress consequent on pleurisy with effusion. Another circumstance which, in the child, increases the difficulty of distinguishing between pleurisy and pneumonia is, that in the latter, children sometimes inspire so slightly as not to produce any crepitation, so that, in both cases, we may have impaired resonance on percussion, with scanty admission of air, and a bronchial character in the respiration, but without any other morbid sound. In the child, too, we lose the very valuable information which the presence of the expectoration in the pneumonia of grown persons affords, when contrasted with the absence of all expectoration as an attendant on the dry cough of pleurisy. With the advance of the disease, doubt as to its nature is removed; it is at its commencement only that mistake is possible. But even then, and in spite of all the circumstances which have been enumerated as tending to mislead, you will seldom be wrong if you regard as an instance of pleurisy, any case in which symptoms like those of pneumonia having set in suddenly and severely, auscultation fails to detect the crepitus of pneumonia, and discovers only feebleness of the respiratory murmur on one side, with or without a more or less marked bronchial character in the breathing.

But we may now pass to the consideration of the *treatment* of acute pleurisy in childhood, a subject which need not detain us long, since the age of the patient in no respect alters the principles which must guide our conduct. If seen sufficiently early, and treated with due activity, cases of acute pleurisy in infancy and childhood nearly always have a favourable termination, and in almost every instance that has come under my observation in which the issue of the disease was unfortunate, either all treatment had been neglected till the children were past hope, or the nature of the complaint had been mistaken, or the treatment followed had not been sufficiently active. This last error it is of great moment to avoid, for acute inflammation of the pleura in childhood runs its course with greater rapidity to a more speedy fatal issue than in the adult. Of seven fatal cases of acute pleurisy in childhood, of which I have preserved a record, three ended in death on the sixth day, one on the ninth, one within a fortnight, while one of the remaining two terminated in thirty days, and the life of the child in the seventh case was prolonged for several months.

In almost every case, provided the symptoms be at all urgent, and the child's previous health have been good, general depletion should be resorted to, and you need not be afraid of carrying this first bleeding to syncope, since children generally faint after the abstraction of a comparatively small quantity of blood from the arm. It will be almost always necessary to follow this up by local bleeding, but it is desirable to wait for three or four hours, in order that you may be enabled to estimate the effect produced by the previous venesection. A second bleeding from the arm is seldom needed, and may almost always be avoided if local depletion be not too timorously practised. In the acute stage of pleurisy it is better to draw the blood by leeches than by cupping, since the side is often so tender that the pressure of cupping-glasses would be unbearable. After depletion, one chief reliance is to be placed on calomel which should be freely given in combination with opium or Dover's powder. Antimony, which often renders us such good service in pneumonia, is here of little use; and though it may somewhat diminish the frequency of the breathing, it exerts little or no influence upon the local mischief. A pleurisy treated thus actively, is sometimes overcome in the course of 24 or 48 hours, so that nothing remains of symptoms which had ap-

peared so formidable. Often, however, after the acute symptoms have subsided, the affected side remains dull, and the respiration scanty for weeks together, and now is the time when the use of blisters, associated with the exhibition of small doses of calomel, will be of most essential service, and will generally effect the complete absorption of the fluid, and the restoration of the patient to perfect health.

This, however, is not always the case; but sometimes, in spite of remedies perseveringly employed, one side of the chest continues full of fluid; and the question then comes before us whether it will not be expedient to let out that fluid by mechanical means. Many most important considerations are, as you know, involved in the question of performing paracentesis of the chest; but the indications for its performance are the same in the child as in the adult; while my own experience would lead me to conclude that cases in which the operation is necessary, are of very rare occurrence in early life. (See Report.)

ART. 101.—*On Atelectasis Pulmonium.* By Dr. WEST.

(*Medical Gazette*, Oct. 22, 1847.)

[Imperfect expansion, or partial persistence, of the foetal condition of the lungs after birth, is a condition which has only recently attracted attention; and we therefore avail ourselves of the present opportunity of laying a succinct account of the affection before our readers. Dr. West observes that it presents itself under two different circumstances:—]

1. As a congenital condition; a more or less considerable portion of the lung never having been penetrated by air.

2. As an acquired condition; portions of lung which were once freely traversed by air ceasing to admit it, not from alteration of structure, but from simple collapse of the pulmonary tissue.

If the body of a newborn infant, or one which has survived its birth but a few days, be examined, patches of lung of a dark red colour, and depressed below the surrounding tissue, are sometimes found. These darker portions, which exactly resemble foetal lung, are solid to the touch, do not crepitate, and sink in water. They are not friable, and their cut surface is perfectly smooth, like that of muscle. . . . It is usual to find, in connection with this state of the parenchyma of the lungs, that the pulmonary vessel contain less blood than usual, that the foramen ovale is unusually open, and the ductus arteriosus imperfectly closed. Sometimes bronchitis attacks a lung thus affected, and there is then often a state of congestion of the lungs which renders the contrast between the collapsed and the healthy lobules less striking.

Cases in which this condition of the lung exists, usually present the history of the child having been stillborn, and though resuscitated after a time, yet still never crying loudly like other children. Even after breathing has gone on for some time, such children appear feeble; and though they have attained the full term of foetal life, yet they can scarcely suck. An infant thus affected sleeps more than newborn infants generally do; its voice is more feeble; and the chest is little, if at all, dilated by the respiratory movements. The temperature falls, the skin becomes pale, and the lips grow livid. The difficulty of sucking increases; the voice grows weaker and more whimpering, or even altogether inaudible; while respiration is attended by a slight r le, and convulsive movements occur frequently. Any sudden movement suffices to bring on the convulsive movements; but even when perfectly still, the child's condition is not uniform, but it will become suddenly convulsed, and during the seizure the respiration will be extremely difficult, and death will seem to be impending. In a few minutes, however, all disturbance ceases, and the extreme weakness, inability to suck, and its feeble voice are the only abiding indications of the serious disorder under which the child is suffering. Death usually takes place at the end of a few days, or weeks.

[The treatment of this condition is laid down by Dr. West as follows:—]

The importance of maintaining an equable temperature around every child in whom respiration is not duly performed, cannot be too much insisted upon, and this temperature ought to be below 70°. Benefit often accrues from the use of the warm bath at 100°. The child should not be allowed to remain longer than five

minutes in the bath, and should be immediately enveloped in hot flannels. The back and chest should be rubbed once or twice a day with a stimulating liniment. If the child be very feeble, stimulants may be given, as the compound spirit of ammonia, in milk. The daily employment of a gentle emetic has, in some instances, appeared to be of service—not merely by relieving the air-tubes of any mucus that may have accumulated there, but by inducing deep inspiration, and thus aiding the more complete establishment of respiration. As the child improves, tonics may be substituted for direct stimulants. The child should be put to the breast, unless it be very feeble; but in this case it ought not to be allowed to exhaust its strength in fruitless attempts to suck. It will be better to draw the breast, and give the milk by a spoon. This plan must be persevered in; nor must the supervention of symptoms of an apparently acute character induce too wide a deviation from it.

ART. 102.—*On the Diagnostic Value of Tears in Infantile Diseases.* By M. TROUSSEAU.—The author states as a general rule, that when the infant sheds tears it is not dangerously ill; and, on the contrary, the absence of weeping indicates a severe disease. He regards this to be so true as to deserve to be considered as an aphorism. He does not deny, however, that there may be exceptions.

Gazette des Hôpitaux, and Revue Méd.-Chirurg., Jan. 1848.

REPORTS
ON THE
PROGRESS OF THE MEDICAL SCIENCES.
January—June, 1848.

THE intention of the following Reports is to pass in review the principal additions to each department of Medical Science, which have been placed on record during the preceding six months. It is not contemplated that they should be confined exclusively to the notice of what is new; any fact or doctrine which may be considered practically useful, will, although not strictly novel, be regarded as worthy of commemoration. It must be obvious to all who are aware of the immense mass of information which is almost daily put forth by the medical press of this and other countries, that the notice of every subject would be an impossibility. It therefore devolves upon the writers of each Report to select only such articles for retrospection as may possess superior recommendations, either of an intrinsic character, or in relation to the main end and aim of all medical knowledge—the alleviation of suffering and disease.

I.

REPORT ON THE PROGRESS OF PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

BY THE EDITOR.

(The figures in the parentheses refer to corresponding articles in the **ABSTRACT**.)

PART I. GENERAL PATHOLOGY.

§ I.—*Diseases of the Blood.*

1. *Scurvy*.—Having devoted considerable space to this disease in our last Report, it is not our intention to do otherwise than allude briefly to communications upon the same subject, which have subsequently appeared.

In an important communication by Dr. Garrod,* the author endeavours to show, and with much appearance of truth, that the proximate cause of scurvy is a deficiency in the salts of potash contained in the blood. He has further determined, that, in all the dietaries of scorbutic patients, potash has been deficient; and, conversely, that in those aliments which are found to be beneficial in the disease, that salt exists in large quantities. As a practical fact, elicited by his researches, he states that scorbutic patients may be restored by the simple addition of potash to their diet, without other alteration. This communication is made in a philosophical spirit, and merits the attention of the political economist no less than of the physician.

A Report on scurvy, as it appeared on board an American vessel of war, has been furnished by Dr. Foltz,† a surgeon in the United States navy. It contains neither facts nor deductions which offer any features of novelty, but both of which serve to confirm the opinions expressed in our former Report, of the important part played in the causation of the disease, by the deprivation of fresh vegetables combined with extra labour and deficient ventilation. The author particularly insists upon the value of the potato as an antiscorbutic, thus agreeing with several writers mentioned in our last volume.

§ II.—*Zymotic Diseases.*

2. *Fever, Epidemics of*.—The past year has, as our readers are well aware, been signalized by the almost universal occurrence of outbreaks of fever, varying in intensity, but, for the most part, exhibiting a malignity which has been followed by unprecedented fatality. Independently of the interest which attaches to these fearful visitations as matter of scientific reflection, the recent epidemic may claim a deeper hold upon our minds, of another character, arising from the awful ravages committed among our own ranks, and the consequent sacrifice of every worldly comfort to hundreds of those helpless ones in whom we ought all to take a personal interest. In perusing the weekly obituaries of our brethren, in Ireland more especially, it is painful to observe for how paltry a remuneration these martyrs to science and humanity have been made to stake their own lives—their children's fortune; and, in spite of the unworthy motives attributed to their reception of the pittance by the editor of an Irish Medical Journal, the conviction is forced upon

* Monthly Journal of the Medical Sciences, Jan. 1848.

† American Journal of the Medical Sciences, Jan. 1848.

us that these noble-minded men thought it due to the character of their profession, rather, though unrewarded, to minister to the disease and death around them, than to condescend to higgles, in the hour of danger, for an increase of pay.

Histories have been furnished of several of these epidemics, or rather of the same epidemic as it appeared in different localities, of the principal of which we purpose to give a brief analysis.

Dr. Paxton,* of Rugby, describes fever as it appeared in a mild form in that neighbourhood. It is stated by him to have been generally preceded by diarrhoea, and to have rarely been fully developed when that symptom was judiciously treated. The febrile symptoms are said to have declared themselves under three degrees, and were recognized as follows:

The countenance expressed stupefaction; chills followed by heat occurred every half hour, with headache, quick pulse, furred tongue, epigastric pain, loaded urine, &c. These were the symptoms of the milder form, and soon subsided. If, however, the noxious influence had been more decided in its effects, the second degree of fever was observed. This differed from the first, chiefly by its greater intensity. The patient, at the early stage, had a deep flush on the cheek, alternating with paleness; dry skin; thirst; thick, drab-coloured secretion covered two-thirds of the tongue; the pulse rapid, i. e. from 110 to 130; urine turbid. Uniformly there was a certain amount of cerebral disturbance, indicated by moaning or crying out, with sudden sharp pains. A restlessness and delirium existed in most cases, and led one to suspect meningitis. After the subsidence of the latter symptoms, marked pervigilium was observed, which was followed by unusual torpor.

The third degree exhibited the common characteristics of typhus.

In referring to the treatment of this epidemic, Dr. Paxton takes occasion to criticize the opinion that wine, and a cordial plan of treatment is necessary in fever, and illustrates his position by the detail of cases in which mischief was supposed to have arisen from this practice. He proceeds to state, that the successful treatment of this epidemic depended on the strictest attention to regimen; errors in diet were fatal. All kinds of stimuli had the effect of increasing arterial action, congestions, and cerebral disturbance. It was only in the stage of *perfect subsidence* of the malady, that wine could be taken with impunity. He remarks that he had often to regret the permission he had given to use wine at too early a period. The most mild species of nutriment were the best for the patient. Time after time has he known a generous diet, such as beef-tea and wine, to derange the viscera, and to have a direct tendency to excite organs already too much excited by febrile phenomena, and the consequences were invariably a correspondent depression of the vital powers. The principle which suggests wine, and the highest nutriment in low fever, in theory is, he says, plausible enough. "To oppose what was esteemed strength to weakness, is a theory which readily gains an ascendancy in the minds of those who are ignorant of the management of diseases. They are haunted by the single perception of *debility*, but the exhibition of wine, to counteract the debility, only involved the patient in additional dangers. At the advanced stage of fever, wine is the medicinal extreme unction for the patient's dismissal. In the earlier stages, it may be symbolized by the golden cup filled with abominations." There could be no compromise, he observes, between wine and the Rugby fever. It was not long before he found, that either the nature of the fever, or the peculiar habit of persons in this locality, would not allow of the administration of stimulants without decreasing the chances of recovery.

These remarks respecting the use of wine in fever, are certainly not in accordance with the opinions of the best authorities, and differ widely from the views expressed in the following communication by Mr. Bree, of Stowmarket.

Mr. Bree gives the history of an epidemic fever as it was witnessed in the parish of Finborough, in Suffolk, the account of which embraces points of great interest, more especially as respects the disputed point of contagion, the operation of which on the cases in question he establishes beyond the possibility of doubt. In the treatment of the disease he exhibits a full acquaintance with what we believe to

* Prov. Med. and Surg. Journal, Nov. 3, 1847.

be the most satisfactory therapeutics of fever at present known. The indications he kept in view were:

1st. To obviate the effects of local congestion, and of what he believes to be in fever altered blood; which effects, again, he believes we see in or about the capillary system, or in ulceration of Peyer's glands, &c.; and,

2d. To prevent his patients from dying by asthenia; to keep them, in fact, alive.

The first indication he attempted to fulfil by the use of the pulvis sodæ comp. of Guy's Hospital, a most useful medicine in these cases. It is composed of carbonate of soda, compound chalk powder, and calomel; sixteen grains contain one grain of calomel. Of this he gave from five to twelve grains every four hours, with or without a solution of the carbonates of soda and ammonia.

The second indication he endeavoured to fulfil by the administration of port wine, with or without brandy, in large quantities.

In the cases he has detailed there were frequently abdominal and thoracic complications; in one case there was decided pneumonia, but he did not on this account omit the wine, though he pushed on the mercury. He was equally regardless of delirium, which is, probably, always an effect of innervation in these cases; and of the dry tongue. Whenever he found unequivocal indications of debility, as evidenced by a quick, thready, irritable pulse; *trembling*; sordes about the mouth and teeth, &c., he invariably gave wine. The result of the cases related fully bears out the propriety of the practice.*

The fever which has recently prevailed in and about Kilkenny has been described by Dr. Lalor† under the name of "gastro-enteric fever," derived from the prominence of gastric and intestinal symptoms. The invasion of this form of fever was sudden, setting in, in general, with rigors, followed by delirium or dullness of intellect, vomiting, diarrhoea, pains in the joints, &c. After the continuance of these symptoms for six or eight days, the fever usually subsided. The relapses, which were frequent, and often fatal, assumed one of four forms:

1. Pyrexia attended with severe pains, similar to rheumatism, often terminating favourably in from three to seven days. 2. Pyrexia, with distressing nausea, and vomiting of a grass-green fluid; prostration; cold, clammy skin, &c. 3. A combination of the two preceding forms. 4. A species of protracted fever, with nausea, irregular bowels, and variable pulse; termination usually favourable.

In 1845, a purpuric eruption began to be a concomitant of the fever. In the spring of 1846, this combination became more general, the fever at the same time putting on a more typhoid type with diarrhoea, general œdema, and gangrene. The eruption generally appeared first on the upper part of the chest, subsequently on the abdomen and extremities, seldom on the face. In bad cases there were large distinct bullæ filled with a bloody serum. The gangrene usually appeared in the mouth, the pudenda, or anus; bad sores and gangrene of the extremities were rare.

The treatment followed by Dr. Lalor in this fever was, in the first instance, expectant. In collapse, external warmth and stimulants were employed. Blisters were found useful for the præcordial pains, but leeches and depressing diaphoretics were ill borne. In the relapses, a stimulating treatment was imperatively called for.

The post-mortem appearances in fatal cases of this fever were chiefly remarkable in being associated with or produced by purpurous extravasations, similar to those on the skin. These were found on the peritoneum, pleura, mucous membrane of the stomach, intestines, and bladder. Apoplectic effusions were also found on the lungs and in the substance of the muscles. On the mucous surfaces these blotches terminated in ulceration, which were of two kinds, one small and circular, with a disposition to granulate, the other sloughy, with fungous granulations similar to the spongy sanies of scorbutus. The liver was of normal size, mottled and friable; the spleen was generally enlarged: the kidneys sometimes presented purpuric spots: the heart's substance generally softened.

In alluding to the causes of this epidemic, Dr. Lalor hesitates to attribute it en-

* Prov. Medical and Surg. Journal, April 15, 1848.

† Dublin Quarterly Journal, Feb. 1848.

tirely to the effects of famine; but he admits that the purpuric or scorbutic character was associated from the date of the failure of the potato crop, and increased as destitution advanced. The fever appeared to be decidedly contagious.

Mr. Bottomley, of Croydon, has also published an account of fever as it appeared among the Irish labourers who had come into that part of the country to get up the harvest. The type of fever is shown to be the "simple continued," with tendency to typhoid depression. The writer states that there was no reason to believe it infectious, unless in the event of close crowding of the patients and inattention to ventilation.*

Lastly, Dr. Orr has furnished a historical and statistical sketch of the epidemic fever in Glasgow; and, amongst other useful information, gives a vivid picture of the dangers which were encountered by the medical attendants. In one parish alone, seven out of seventeen surgeons took fever, three of whom died. In another district, containing seven surgeons, three perished. In all, no fewer than 117 persons, engaged in attending fever patients, contracted the disease, of which number 30 were ascertained to have died.†

3. *Cold-water Treatment of Fever.*—Dr. Nevins‡ confirms the advantages said to be derived from the treatment of fever mentioned in our former volumes (V, art. 2; VI, art. 1.)

4. *Intermittent Fever.*—M. Fleury has presented a memoir to the French Academy of Sciences, on the use of cold douches in ague.

He was led to these researches by the assertion of Dr. Currie, that the accessions of ague might be prevented by the affusion of cold water, and that by its repetition four or five times, the disease might be entirely cured. M. Fleury has employed this means one or two hours before the expected paroxysm, in the form of a general douche, and in that of a local one to the region of the spleen.

The ends attained by the above plan he believes to be,—1. A shock exerted on the nervous system, and on the general capillary circulation. 2. The opposing of a vigorous reaction and general stimulation of the surface to the cold stage of the fever. 3. A modification of the circulation of the spleen, combating congestion of that organ.

He has pursued this treatment in eleven cases of intermittent fever. In seven of them the disease was recent, and there had been but from three to seventeen paroxysms; quinine had not been administered in any one. In two cases, the spleen preserved its normal size; in five, it was enlarged: a cure was effected in all. In one, a single douche sufficed to cut short the fever. In two others, two affusions were necessary to do so, and to restore to the spleen its natural dimensions. In the remaining four, affusion was practised three times.

In those patients where two or three douches were used, the effects produced were constantly the same. By the first application, the accession was retarded two or three hours; the rigors less violent, and shorter by one-half or five-sixths the time; the heat and headache were equally lessened; and the total duration of the fit was diminished by at least one-half. Age and the type of the fever did not exercise any appreciable influence over the effects of the treatment. Where, however, the volume of the spleen was larger, the time required for the cure was augmented. Four patients had suffered from the disease for from two to eleven months, having had several relapses, and resisted the action of sulphate of quinine, and presented the anæmia, emaciation, anorexia, &c., seen in those who have been long affected by ague. Three douches were required in two of these cases, and five in one other, to remove the fever; but from eight to eleven were necessary to cause the splenic engorgement and the cachectic symptoms to disappear. In one case the liver was very greatly enlarged; but this condition disappeared by perseverance with the affusions.

M. Fleury arrives at the following conclusions:—1. In the treatment of recent intermittent fever, simple, and with little or no engorgement of the spleen, cold douches may be substituted for quinine. 2. In the treatment of old-standing ague, where several relapses have occurred, and there is considerable enlargement of the spleen, or of the liver, with a cachectic condition, cold affusions are to be

* Prov. Journal, Dec. 29, 1846.

† Ed. Med. and Surgical Journal, No. 175.

‡ Med. Gazette, Jan. 21.

preferred to quinine; for they cut short the fever, restore the viscera to their natural volume, and remove the cachexy more rapidly and more safely than quinine; the latter, in large doses, not infrequently acting injuriously upon the nervous system, or on the digestive organs.*

5. *Glanders, and Diffuse Cellular Inflammation, Analogy between.*—Mr. Frazer adduces three cases of diffuse inflammation, in which, although no glanderous infection could be traced, true glanderous bullæ appeared; from this he would deduce the analogy, if not identity, of the two forms of disease.†

6. *Cholera.*—The communications which have been called forth by the anticipated approach of this disease for the second time have been numerous; too much so, in fact, to allow of the possibility of noticing all in the present Report. In speaking, moreover, of several of the debateable points connected with the history of the disease, it will be our object to be as brief as is consistent with the importance of the subject, taking further into consideration that much of the recent information upon the subject has been already laid before our readers, by Dr. Guy, in his last Report on Public Health. The purely sanitary part of the question we shall still leave to be discussed by Dr. Guy in his future Reports, as part of the general question of hygienic medicine.

One of the most important of the recent contributions to the history of cholera is a work by Dr. Parkes, entitled, "Researches into the Pathology and Treatment of Asiatic or Algide Cholera," containing the results of extensive practical experience with the disease in India, and is distinguished by a careful inquiry into its symptomatology and post-mortem appearances as the only basis upon which a just view of its nature can be founded. It may be stated in anticipation, that the author's view of the pathology of Asiatic or algide cholera is, that it is "primarily a disease of the blood, and that the proper and distinctive symptoms of the disease are induced by the changes which take place in the function of respiration directly consequent on the alteration of the blood." In order to do justice to the author's method of substantiating this opinion, we must follow him through the successive chapters of his volume.

The *post-mortem* appearances in cholera, the appreciation of which forms the first step in the line of argument adopted, are drawn from a comparison of forty-six dissections of males, averaging an age of twenty-seven years. From these he determines, that the most usual appearances in the cranium, consist in the accumulation of blood in the veins of the dura and pia mater, with more or less serous effusion. The most common appearances in the lungs were, the presence of blood in the large vessels mostly or solely, and collapse and deficient crepitation in the pulmonary textures. The right side of the heart and pulmonary arteries are generally full of blood, the left side and aorta were generally empty. The condition of the blood itself was noticed in thirty-nine cases, and the most important changes were observed to be as regards its coagulation and colour. It appeared probable to the author, "that there was a deficiency of fibrine, or a great tendency to its separation and deposition, and thus the red particles were partially dissolved in the serum. In the abdomen, it was found that there was some accumulation of blood in the larger branches of the vena porta and hepatic veins; thus the gall-bladder was moderately full, and the bile thick and viscid. The spleen did not offer any changes which could be attached to the disease itself, some of the patients in whom this organ was found to be in an abnormal state had suffered from the severe intermittents of the climate. The kidneys were unaltered in the majority. The stomach was either distended with a watery fluid not coagulable by heat, or it was corrugated and contracted. There were in some cases patches of hemorrhagic congestion. The small intestines were generally dilated, and in every instance contained a peculiar fluid. The agminated and solitary glands were enlarged, and the mucous membrane was generally injected, but not perceptibly thickened. There was no ulceration of the agminated glands in any case. In two instances, the solitary glands were ulcerated. The colon was contracted in about half the cases, sometimes to an extraordinary extent. It did not seem to bear any relation to the amount of the purging. There were no ulcerations or change in consistency of the mucous membrane.

* Bulletin des Académ., and Lancet.

† Dublin Medical Press, March 15, 1848.

Speaking next of the peculiar fluid found in the intestines, which was one of the constant appearances, the author describes it as white, or chocolate-coloured, consisting of a thicker and a thinner portion. The thicker lying in masses here and there: the thinner fluid sometimes coagulated by heat, but not generally; it precipitated nitrate of silver in every case. The author states that there can be no doubt that the thin rice-water evacuations consist of this fluid, and that they are composed of part of the water and salts of the blood, mixed with a protein compound. It is also probable, he states, that this compound is chiefly fibrin. The author further notices the two facts in conjunction—that the blood is deficient in its coagulable ingredients, and that the intestinal canal contained the ingredient in which the blood was deficient. The bladder was always contracted.

The chapter immediately following the minute description of the morbid appearances, of which ours is a greatly condensed account, is occupied with the *symptoms* of cholera examined separately, and, in a subsequent chapter, they are again viewed collectively. The author refers the chief phenomena of the disease to three heads, viz., the changes in the abdominal organs, in the thoracic organs, and in the muscular system; but what their mutual connexions and dependencies in the first instance are, he does not think it easy to decide. At a later period, the relations of one group of symptoms, as, for instance, the purging and vomiting to the collapse, can be more accurately determined. And here the author agrees with Orton, Kennedy, Copland, &c., that there is no absolute ratio between the two groups of symptoms; for it often happened that at the period when the algide symptoms were most developed, the purging had ceased, and in others of the most fatal collapse, the purging and vomiting had been trifling or absent. This is a most important fact, and entirely subverts the common notion that the collapse is due to the draining away of the fluid portions of the blood.

The relation between the vomiting and purging and cramps appears to be more intimate, and the author seems to have remarked that the latter depended mainly upon the distension of the bowels by the fluid, and were mitigated by its expulsion; he noticed, also, that the mere distension of bowels by injections reproduced them after they had subsided, thus evidently pointing out their reflex origin. The author concludes the chapter by stating that the algide symptoms are the pathognomonic features of the disease, and that the evacuations and spasms, though frequent, are not essential phenomena.

The fifth chapter gives us a general description of the symptoms of cholera. Excluding those anomalous and obscure cases which he terms pseudo-cholera, he includes a disease which presents features characteristic of the action of a morbid poison, having its periods of evolution, progress, and termination. The first period is brief, and the last or febrile state is the reaction of the system after its endeavour to eliminate the poison. This stage, as he observes, is not often seen, the intervening period being so generally fatal.

The premonitory symptoms of cholera are diarrhoea, colic, trembling, tinnitus, nausea, and a sensation of lightness across the chest; at other times there are more severe vomiting and purging. These symptoms may be cut short by treatment. If they are not checked, they lapse into the true choleraic symptoms, or these latter make their invasion at once.

These destructive symptoms are seen in the condition of the respiratory and circulatory system, and consist of the fearful group of algide phenomena, which are only too familiar to those who are practically acquainted with the disease. Some hours before death, the author has remarked a return of heat over the head and chest, while the extremities retain their dry temperature. This he regards as an unfailing indication of approaching dissolution.

In the sixth chapter, the author investigates the connection between the symptoms and post-mortem appearances. We shall not follow him closely in his lucid discussion of the debatable points which originate out of this question, but shall proceed to his division of the disease into forms or varieties depending upon the presumed changes in the blood, which, as we have said, he regards as the starting-point in the chain of morbid actions.

If the operation of the exciting cause, whatever it be, upon the blood, be overpowering in its effects, there is a complete and rapid arrest of the circulation, and the worst variety is produced, in which a mortal coldness prevails from the first.

If the cause act with less intensity, we have the second variety, in which the fibrin is less altered, and the circulation is not prostrated at once. In this the protein constituents are effused into the intestines. The third or least formidable variety commences with watery purging and vomiting, and may pass into the first and second forms after variable periods. The mere watery discharge is not of material moment, and the case is not fully developed as choleraic till perhaps suddenly, after several serous stools, one containing the true choleraic flocculi, is ejected. From this moment the true features of the disease become manifest.

Taking a retrospective glance, we observe that Dr. Parkes' theory of cholera is, that it arises from some poison, the impression of which is first made through the respiratory organs upon the blood. The changes induced in this fluid are mainly noticed in the condition of the fibrin, which loses its power of coagulation, or is taken from the blood, being poured into the intestines in the form of the flocculi known as the solid ingredient in the rice-water evacuations. Dr. Parkes places less stress upon the vomiting and purging than most writers, not regarding them as essential symptoms, or tracing any direct ratio between their severity and the severity of the case; but, on the contrary, he notices that the most severe forms of the disease were manifested by a complete suspension of the respiratory and circulatory functions without the appearance of vomiting and purging. The connection between them and the degree of muscular spasm he regards as more determinate.

With regard to the *propagation* of the disease, he is truly an anti-contagionist. (For his treatment, see ABSTRACT, art. 1.)

A pamphlet has been also recently issued by Dr. Gavin Milroy,* with the two-fold object of determining what are the means by which pestilential cholera is propagated, and what should be the leading principles by which its treatment, preventive as well as curative, should be attempted. The leading principle sought to be established is that of its non-contagiousness, and consequently of the utter uselessness of quarantine, cordons sanitaires and similar measures. This the author seeks to do, by a well-digested history of the present and former epidemic, including the narrative of numerous instances of failure of the most stringent quarantine regulations and their subsequent abandonment by several continental governments. The author also endeavours to strengthen his position by a comparison of the diffusion of the choleraic poison with that which gives rise to influenza, showing that the two have been in all important respects similar, and deducing therefrom, that, as the influenza is indisputably non-infectious, there are good grounds for reasoning by analogy that cholera is so also.

The essay, after some remarks upon the inutility of the so-called disinfecting agents, and the all-sufficient disinfecting powers of free ventilation, concludes with the instructions regarding the treatment of the disease which we have elsewhere given. (Art. 1.)

The impulse derived from the contemplated sanitary bill of Lord Morpeth has caused our medical literature to be inundated with pamphlets and less pretending communications, referring more particularly to cholera; some full of commonplace disquisitions upon sewers, insufficient ventilation, and so forth—all useful enough in the localities of their respective authors, but contributing nothing to the diffusion of real available information respecting the fearful disease with which we are now threatened. These productions we have not space to allude to individually, but are compelled to content ourselves with naming two, as possessing more than common merit: viz. a brochure by Dr. Starr, of Leamington,† and an essay on the "Present State of Knowledge of Cholera," by Dr. Knox,‡ The latter may be consulted as affording an elaborate and accurate *resumé* of the literature of the disease.

7. *Coexistence of Smallpox and Scarlatina.*—More modern experience has had frequent opportunities of disproving the Hunterian maxim, that two fevers cannot coexist in the same constitution; but the fallacy has seldom been more strikingly shown than in a case related by Mr. Marson, in which variola and scarlatina existed at the same time in the same subject. There is reason to suppose that such

* The Cholera not to be Arrested by Quarantine, 1847.

† Discourse on Asiatic Cholera; London, 1848.

‡ Dublin Medical Press.

occurrences are not so rare as is imagined, as the author states that he has himself seen seven instances, and alludes to others scattered through various journals, the references to which are given in the original.*

PART II.—SPECIAL PATHOLOGY.

§ I.—Diseases of the Nervous System.

8. *Inflammation limited to the Lining Membrane of the Cerebral Ventricles.*—In an essay, published in the "Archives Générales," M. Rilliet alludes to the occasional occurrence of meningitis confined to the ventricles as a cause of chronic hydrocephalus. The disease, when thus circumscribed, originates, as does the peripheral form of the disease, in a state of apparently perfect health, and makes itself known by headache, vomiting, constipation, and fever. It differs, however, from the latter in the more constant occurrence of convulsions, and the late period at which the intelligence becomes disturbed.

9. *Delirium Tremens.*—Dr. Pliny Earle gives an analysis of the cases of delirium tremens admitted into the Bloomingdale Lunatic Asylum during a period of twenty-three years. The following comprises the most interesting facts elicited:

There were more cases admitted in the earlier years of the institution than at a later period, though in the interim the population of the city of New York had more than doubled.

The males exceeded the females in the proportion of 6—1.

Among males, the single men afforded the largest number of patients; among females, the married.

Merchants, traders, clerks, and professional men furnished more than half the number of patients.

The age at which the disease was most frequent was from 30 to 40.

Considering the severity of the disease, it was found to be very remediable; of 322 cases, only 20 died.

It appears that the treatment adopted varied much during successive periods; but no mention is made of that which was found most successful.†

10. *Apoplexy and Cerebral Softening—Diagnosis.*—If we consult the writings of Rostan and Lallemand, it would appear that the diagnosis of these two forms of cerebral disease is a matter of comparative facility; the first being sudden in its invasion, the other having certain precursory signs. That this broad distinction, however, will not hold good as a constant rule, must be familiar to those experienced in cerebral maladies, and has been recently insisted upon by a writer in the "Revue Médico-Chirurgicale."‡ Among the number of precursory signs of softening of the brain are mentioned tingling and pricking sensations in the limbs, cramps in the legs, loss of power and steadiness in walking, failure of the intellectual powers, hesitating speech, &c. It is, however, the author observes, equally certain that the same symptoms have been known to precede sanguineous apoplexy. Permanent contraction of the limbs has been regarded by Lallemand as pathognomonic of "softening;" the author shows that this symptom is also seen in apoplexy.

On the other hand, it is stated that the phenomena of ramollissement do not occur suddenly, as in apoplexy. The author shows that this is also a fallacy; and gives the instance of a man who suddenly fell down in a fit while micturating, in whom softening of the brain was the only morbid appearance. It appears, therefore, that there are in reality no trustworthy distinctive symptoms by which the two diseases can be recognized respectively.

11. *Epilepsy—Theory of Convulsive Diseases in general.*—This forms the subject of a comprehensive lecture by Dr. Marshall Hall, of which we proceed to give such an abstract as its laconic phraseology will permit. The author commences by alluding to the experiments of Flourens, proving that no irritation of the cere-

* Med. Chir. Trans., vol. 30.

† American Journal of Medical Sciences, Jan. 1848.

‡ Dec. 1848.

brum or cerebellum, or of true cerebral nerves, can produce muscular action, and to his own researches, which prove that irritation of the spinal marrow may be induced through the medium of certain incident or excitor nerves. He then mentions the two series of causes of general convulsions, viz. centric, or that which originates in the cranium or spinal canal; and the excentric, or that which is seated in the peripheral nerves.

This irritation, centric or excentric, constitutes the first link of the chain of causes and effects, or symptoms in epilepsy. The second link consists in the excited action of certain muscles of the neck; the next step is the consequent compression of the jugular veins, and the venous system of the head and neck generally.

To this condition, arising from the compression of the jugular veins by the action of the platysma, &c., Dr. Hall applies the term sphagiasmus (*σφαγιάζω*, I strangle). If this is not succeeded by laryngismus, cerebral epilepsy, or the *petit mal* of the French, is produced. Laryngismus, more or less complete, and *odaxismus*, or biting of the tongue, complete the sketch of the epileptic paroxysm.

Proceeding to more detailed accounts of the epileptic seizure, the author notices, first, the

Causes. These are—1. Gastric, enteric, uterine irritation; *reflex*. 2. Irritation of the cerebral membranes, and pericardium: also *reflex*. 3. Irritation of the medulla in disease within the cranium; *direct*. 4. Shock to the nervous system from emotion, violent efforts, sexual excess; also *direct*. 5. Sleep. 6. Undue excitability of the spinal system from previous attacks, sexual excess, &c. 7. Exanthematic perturbation. 8. Exhaustion from loss of blood. 9. Albuminuria and diabetes.

Speaking of sleep as a cause of epilepsy, the author suggests that sleep itself is of the nature of sphagiasmus.

Symptoms. Whatever be the cause of epilepsy, the author states that sphagiasmus is the first symptom. From this arises the cerebral part of the epileptic seizure, the flashes of light or mist before the eyes, perversion of smell, loss of memory, &c. The immediate cause of this action of the muscles of the neck, like the cause of action of the capillaries in blushing, &c., seems to be unknown.

If to sphagiasmus, and the consequent cerebral congestion, laryngismus is added, general convulsions, or true spinal epilepsy, ensues. There is biting of the tongue, frightful distortion of the eyes, limbs, and general frame; there are foaming at the mouth, protrusion of the tongue, and may be expulsion of the fæces, urine, or semen. The convulsion sometimes leaves one limb or side feeble; at others, and more generally, it is attended by deep coma, or followed by a paroxysm of mania. After repeated attacks the memory may fail. The author thus recapitulates his views of the epileptic attack:—

1st. Some source of irritation acting in a reflex or direct manner on the spinal system. 2d. Convulsion of certain muscles of the neck, compression of the jugular veins, and congestion of the cerebrum. 3. Laryngismus—spinal epilepsy, congestion of the encephalon in a tenfold degree, with all its dire effects on the intellect and limbs.

Diagnosis. The chief difficulty is to distinguish epilepsy limited to cerebral symptoms, from fainting, indigestion, &c. When laryngismus, and especially biting of the tongue occurs, there can be no doubt that the case is epileptic. The last symptom the author considers to be diagnostic.

The distinction between hysteria and epilepsy is drawn by the author from the absence in the former of sphagiasmus, laryngismus, and odaxismus. In hysteria there is often a species of laryngismus; but the author states that it is very different from the epileptic laryngismus.

The peculiar symptom termed sphagiasmus by the author is assumed by him to be produced by the action of the platysma myoides on the jugular veins, an action which we shall see, in a future part of this Report, is also adduced by another writer to explain the "*bruit du diable*." The physiological action of this muscle on the vein is supposed by Dr. Marshall Hall to be exhibited in the production of sleep, and in the phenomena of blushing. The pathological effect he believes to be epileptic seizure, or mania, or apoplexy.

Treatment—The author observes, on this point, that all irritation is to be removed,

whether in the stomach, bowels, uterus, &c. To relieve the sphagiasmus, the head should be raised, and forced deep inspirations should be taken, or caused, by dashing cold water on the face. The rest of the treatment during the paroxysm is confined to preventing injury.

The author lays great stress on the regulation of sleep in epileptics. It should not be allowed to be too deep, or to be abruptly broken. The disposition to augmented excitability is to be remedied by free exposure to the air, with exercise. There is no royal road to the cure of epilepsy. The idea of a remedy for the disease, the author says, is unphilosophical. The treatment should consist in a well-administered plan, embracing every means of good, and avoiding every means of harm.*

12. *Treatment of Epilepsy by Tartar-emetic Frictions to the Scalp.*—M. Mettais narrates ten cases in proof of the efficacy of tartar-emetic ointment rubbed into the scalp, so as to induce free suppuration. He states that the counter-irritation should be maintained for a considerable time, as relapses have occurred when the suppuration has been too soon suspended.†

13. *Peculiar Neuralgic Affection of the Forearm.*—M. Gamberini describes a neuralgic affection which commences at the extremities of the fingers, and extends to within an inch of the elbow. It appears always at night, and disappears towards morning. Women are especially prone to it. The author found that, although the periodic nature of this affection was so distinctly marked, yet no benefit was derived from the administration of quinine. The most certain relief was obtained by friction with belladonna.‡

14. *Tetanus.*—Our Extracts (14–15) contain the reports of two successful cases of tetanus; one by quinine in large doses, the other by the action of ether. One similar to the last has also been subsequently reported by Dr. Theobald, of Baltimore, in the person of a man, æt. 27, who had received a serious injury of the hand from the blasting of a rock. It was, however, a case of chronic tetanus; for the ether was not commenced till the seventh day of the disease (most fatal cases of acute tetanus dying on or before the fourth day), and was continued daily till the twentieth. The patient also took hydrocyanic acid in large doses.§

§ II.—Diseases of the Respiratory System.

15. *Auscultation.*—Although the practice of auscultation has been zealously followed for a period of more than twenty years, little has been added comparatively to the principles established by Laennec and his immediate followers. Whenever, therefore, a new work appears giving a systematic account of the various phenomena discovered by auscultation of the chest, we look, as a matter of course, for the old matter; it may be dressed up in a more modern guise, but not materially altered or at all improved. An exception, however, to the usual routine of writers on the physical diagnosis of the chest is to be observed in the last published book on the subject, by Dr. Blakiston,|| for it must be allowed, after attentive perusal, that if he has not contributed original matter, he has at least rendered the subject as attractive as possible, by bringing it up to the latest researches of the time, instead of confining it to the stale rechauffé of stethoscopic knowledge which has been so long before the profession.

Dr. Blakiston divides the respiratory sound, as is commonly done, into three portions, the tracheal, the pulmonary, and the bronchial. Each of these he admits to be produced by the passage of air over the respective portions of the respiratory apparatus. Speaking of the cause of the second, or pulmonary sound, he notices the theory of M. Beau, that it is produced in the fauces and glottis, and it is its reverberation that is heard through the thoracic parietes; he does not, however, adopt this view, but adheres to the old and more feasible one, that it is caused by the rushing of the air through the smaller bronchial tubes (p. 21).

The author's observations on the intensity and propagation of the pulmonary sound, and its modification and replacement by others, are much the same as are

* Lancet, Oct. 30.

† Gaz. Med., Feb. 1848.

‡ Ibid.

§ American Journal of Medical Sciences, Jan. 1848.

|| Practical Observations on Certain Diseases of the Chest. Lond. 1848.

usually met with; the only paragraph calling for special remark being that in which he expresses his doubts of the value of the jerking respiration as a sign of incipient phthisis.

The rationale of the production of the *râle crepitant*, is a disputed point among stethoscopists. Dr. C. B. Williams attributes it to the passage of air through fine bronchial tubes, compressed by defriction, and Dr. Walshe to the unfolding of the vesicles, the sides of which he supposes to adhere. Dr. Blakiston combats both these theories, and decides with the generality, that it is due to the passage of air through a thin viscid fluid. That such conditions are sufficient to produce it, he shows by the experiments of glass tubes filled with gum water.

On the subject of the *practice* of auscultation, the author has some judicious and truthful observations. Referring to the axioms on the transmission of sound laid down by him in a former chapter, he states his convictions of the superiority of a solid over the tubular stethoscope, and it adds not a little to the correctness of his judgment to know that Dr. Watson, who to a profound medical knowledge unites a close acquaintance with mathematical science, also approves of it. On the strength of such high recommendation, we have for some months past given the solid stethoscope a trial, and we feel bound to say, that we have not found it superior to the hollow instrument. For the appreciation of the more delicate shades of smoothness or roughness of the breath-sound, it has indeed appeared inferior. At a further page Dr. Blakiston compares the facility of acquiring a practical knowledge of auscultative aid with the comparatively few persons who attain even to mediocrity. Here we agree with him. It is the "*Pons Asinorum*" with the majority. A man easily learns to cut for stone with *éclat*, or becomes a celebrity in the emergencies of midwifery, but the same man will fail to recognise pneumonia, and will not venture a diagnosis in diseases of the heart.

In connexion with the subject of auscultation, we next call attention to some papers by Mr. Sibson on the position of thoracic organs in the different states of ordinary and deep inspiration. As the series is not yet complete, we must reserve a detailed mention of these valuable essays for a future Report.*

16. *Acute Pleurisy*.—Dr. Blakiston considers that venesection has been too highly praised in the treatment of this affection. He now generally refrains from it especially in persons who are not robust. He places more confidence in leeches, or friction of the affected side with mercurial ointment containing \mathfrak{zj} of opium to the ounce. Between each friction he envelopes the chest in a linseed-meal poultice.†

17. *Chronic Pleurisy*.—The same author has watched this disease with great care, in order to determine whether it is frequently the precursor of phthisis. Of 53 cases in which the results have been accurately determined, no such consequence has been observed. He has also ascertained that the contraction of the side which frequently follows the absorption of the fluid, more generally disappears than has been supposed. Two years were found sufficient, in many cases, to restore the side to its normal proportion.

The treatment adopted in these cases generally consisted of mild iodine and mercurial frictions, and cream of tartar as a beverage in the form of imperial. Mineral tonics were also soon resorted to. In more advanced cases blisters were applied, and stronger mercurial frictions, and it was found advisable to support the strength with quinine, wine, &c. Paracentesis was necessary only in a single instance.

18. *Pneumonia*.—Dr. Blakiston introduces a new division of pneumonia into *serous*, *sero-plastic* and the *plastic* forms, the existence of which, however, he determines from analogy rather than actual observation. The *plastic* form of the disease, of which he gives two examples, appears to be identical with the chronic pneumonia of Andral.

In the treatment of pneumonia, the author draws a just distinction between the *primary* and the *secondary* forms of disease. In the treatment of primary pneumonia, while he admits the occasional advantages of blood-letting and mercury, he places his chief reliance on tartar emetic in one-grain doses, which he considers as suitable to every stage of the disease.

In *secondary* pneumonia, as it occurs after injuries, or during the course of typhus,

* Medical Gazette, March, April, and May.

† Op. cit. p. 261.

he does not venture on antimony, but prefers mercury and counter-irritation, with the liberal exhibition of wine and nourishment.

On the subject of the treatment of pneumonia by tartar emetic, we find some observations by M. Leoncio de Sobrado, giving the results of his individual experience. He comes to the conclusion—1st, that tartar emetic cures pneumonia more surely than the purely antiphlogistic system; 2d, it causes a rapid subsidence of the acute symptoms; 3d, the tartar emetic treatment is often followed by aphthous ulceration of the mouth and fauces; but this symptom is readily amenable to slightly astringent gargles.†

19. *Phthisis Pulmonalis*.—The natural causes and treatment of this disease occupy about seventy pages of Dr. Blakiston's volume. Tubercle, the element of the disease, is regarded as an error of nutrition, and its deposition as preceded by local hyperæmia. Although never seen but in the solid form, he admits, with Vogel, that it is secreted in a fluid form, becoming afterwards solid. The supposition of Addison that tubercle is but an abnormal accumulation of epithelial cells, he considers as irreconcilable with the received views of nutrition.

Respecting the contested nature of the gray granulation, the author states his conviction that it has no essential connexion with tubercle, but that it is an imperfectly organized substance, which, if formed in a non-tubercular patient, may remain stationary; but under the contrary circumstances may retrograde into real tubercle. In this sense, he observes, it may in some cases be considered as the first stage of tubercle, but not in the sense admitted by Lænnec and Louis.

The causes of phthisis are arranged properly by the author into two categories, the causes of the *diathesis* and the causes of its local manifestation. With regard to the former, the difficulty of arriving at any conclusion which can be considered as logically satisfactory, may be surmised from the statement of the author, that although he has accurate notes of the origin and termination of 9000 cases of phthisis which he is able to analyse, he still thinks a larger experience is necessary. Such experience will, we trust ere long, be afforded by the accumulated experience afforded by the Hospital for Consumption and Diseases of the Chest, of which we take pride in having been the originators. In the meantime the author proceeds to state how far his results agree with those of Louis.

This physician and philosopher admits as causes of the tubercular diathesis, *lymphatic temperament, female sex, continued febrile action*, and does not deny that of *hereditary transmission*. He rejects as causes *bad food, impure air, depressing passions*, climate and temperature, trade and occupation, and inflammation of the thoracic viscera.

The author agrees as regards the influence of temperature, sex, and febrile action; but he differs in considering that mental and physical depression have a more special action than Louis admits. The influence of hereditary transmission is also fully acknowledged in reference to the identity of the strumous and tubercular diathesis.

On the subject of the causes of tubercular deposition, the author states that all causes which tend to local determination of the blood, facilitate the deposition of tubercular matter in the particular locality congested, if the tubercular diathesis be present. The great tendency of persons at the time of puberty to phthisis, is explained by the greater determination of blood to the lungs at that period.

Pulmonary congestion, from suppression of the menstrual discharge, has in the author's experience been a very frequent precursor of tubercle.

The possibility of perfect recovery from phthisis has been assumed by Roger, Boudet, Hughes Bennett,‡ and others, from the frequent presence of fibro-cartilage, with or without calcareous concretions in the summits of the lungs of persons who have died from other diseases. The author remarks that these appearances have often been discovered in persons who have never exhibited symptoms of phthisis, and that they have been shown sometimes to be the result of plastic pneumonia. What our opinion is of the value of the puckered cicatrices in these cases we have already stated ("Half-Yearly Abstract," Vol. I., *loc. cit.*). The author, however,

* Op. cit., pp. 266-84.

† Gaceta Medica, Avril.

‡ Half-Yearly Abstract, Vol. I. p. 206.

though demurring to the value of the evidence afforded by the fibrinous and cretaceous concretions, does not deny the possibility of recovery even after the formation of a cavity, but in fact details one of the most unquestionable examples of the kind. This fortunate termination is, however, rare. The chances of recovery from tubercular disease increase with the age of the patient.

The concluding chapter of Dr. Blakiston's work on the *treatment of phthisis*, is well worthy of perusal, and to it we must now refer the reader for further details; we have only space for his observations respecting two medicines now much in vogue, viz., *naphtha* and *cod-liver oil*.

Of the former he states, that he has given it in 100 cases with the following results: In half the cases cavities existed in one or both lungs, and in these no permanent benefit was derived; forty-four died, and the remaining six remained with all the signs of advanced phthisis. In the other half of the cases in which the tubercles had not softened, some advantage was found in the improvement of the digestive organs; but the progress of the disease was not arrested in a single case; but comparing those fifty cases with the other fifty in which *naphtha* was not given, tubercular softening ensued as rapidly in the one case as in the other. (See "Abstract," Vol. II. p. 167.)

Cod-liver oil was tested by the author in a similar manner. Twelve of the incipient cases were decidedly improved. Of the confirmed cases, six were greatly relieved. Of these, four have become strong and fat, and only expectorate mucus; the other two have the disease in a chronic form. All were greatly emaciated when they commenced the oil. In five out of the hundred cases, it was obstinately rejected by the stomach. In eleven it purged. The author remarks further, that subsequently to this he has witnessed very beneficial effects in several other cases. If our readers will compare the above testimony with that which we have recorded in our former volume, they will, we are assured, be favourably impressed as regards the value of cod-liver oil in phthisis pulmonalis.

20. *Diagnosis of Phthisis*.—Pacini has announced that the corpuscles seen in the sputa of phthisical patients, and described by Gruby as pathognomonic of the disease, are nothing more or less than particles of starchy matters derived from the food, and not portions of tubercular matter.*

21. *Condition of the Gums in Phthisis*.—Dr. Fredericq has announced a brick-red line as a pretty constant appearance in the gums of phthisical patients. This line is most distinct over the incisor teeth. The author states that since his attention has been directed to this circumstance, he has looked for it in other diseases, but has never seen it, excepting in the instance of tubercular phthisis. The truth of this assertion may readily be ascertained.†

22. *Ossification of the Cartilages of the Larynx*.—A memoir has been presented to the Academy of Medicine by M. Segond on this subject, the chief points of which are seen in the following résumé:

1. The epoch of life at which ossification of the laryngeal cartilages commences is variable.
2. When this change takes place, it commences constantly at particular points, which for the most part correspond to the insertions of the laryngeal muscles.
3. Ossification commences in the cricoid cartilages, and terminates with the arytenoid.
4. When the cricoid cartilage is entirely ossified, its form becomes altered, so that the anterior part of the cartilage cannot move under the thyroid cartilage, whence it happens that persons in whom the change has occurred, cannot utter the high notes of the voice.
5. The thyroid cartilage, when ossified, undergoes a notable transformation; the groove which is commonly seen in front of the superior tubercle is obliterated, and the inferior border of the cartilage is thickened, and interferes with the motions of the cricoid.
6. There is a change, independent of ossification, which may embarrass the movements of the cricoid cartilage, viz., a prolongation of the inferior cornu of the thyroid.
7. Two portions of the arytenoid cartilages resist the process of ossification

* Archives Générales, Août, 1847.

† Revue Médicale, No. 5, 1848.

for a long period; these are the superior internal apophyses. The *corpora tritica*, when ossified, become amalgamated with the great cornu of the thyroid cartilage.*

23. *Tracheotomy in Croup*.—The propriety, so much disputed, of performing this operation in croup is discussed at some length in Dr. West's admirable lectures, now in the course of publication in the "Medical Gazette." That successful cures have been met with there is no question, but these have been chiefly in France. The reason that it has not succeeded to the same extent in England, Dr. West thinks is to be explained by the fact of the greater frequency of pulmonary complication with us. It must also, he observes, be borne in mind, that in France the operation has been performed in many cases in which it is probable that other treatment would have been successful. One great objection to the operations, as hitherto performed, is acknowledged to be the frequent occurrence of fatal bronchitis, from the direct admission of cold air through the canula; it remains to be seen whether the result would not be more favourable if precautions were taken to ensure a warm moist atmosphere in the room, of not less than 75°†

§ III.—Diseases of the Circulatory System.

A considerable portion of Dr. Blakiston's work, above mentioned, is occupied with some of the more interesting matters connected with disease of the heart and large vessels, including thoracic aneurism, and the progress, termination, diagnosis, and treatment of chronic heart disease. We shall analyse these several chapters as briefly as possible.

24. *Thoracic Aneurism*.—Dr. Blakiston records 26 cases of this interesting lesion, some of which are remarkable for their rarity. Analysis of these and other cases furnishes the author with the following results respecting the *diagnosis* of the affection:

No diagnostic sign was furnished by the pulse, or by the presence of pulsation above the clavicle.

When pulsation was seen and felt over a permanent spot in the chest, it indicated sacculated or mixed aneurism.

Purring thrill was only valuable in conjunction with other signs.

A systolic murmur, heard at a distance from the heart, even though it were not heard in the precordial region, was valuable only as combined with other signs.

A double or diastolic murmur, confined to one spot, at a distance from the precordial region, denoted the existence of a sacculated aneurism.

Aneurism may exist without the slightest trace of pulsation or murmur.

Aneurisms within the pericardium were not indicated during life by any characteristic signs (p. 139).

25. *Treatment of Aneurism*.—Dilated aneurism, as it is called by the author, or aneurism by dilatation of all the coats of the vessel, can only be rationally handled by diminishing the force of the heart's action. We may do this by venesection, but, as the author justly remarks, not without a twofold danger, if carried to any extent, as, in the first place, we increase the irritability of the heart, and cause its beat to be more violent than in health; and, secondly, we run the risk of inducing syncope, from which, with such a state of vessel, the patient might not recover. Digitalis also, in the author's opinion, requires caution in its exhibition; and he prefers poppy and hyoscyamus as more safe remedies.

In the treatment of sacculated aneurism the object is to cause coagulation of the blood in the sac. This may, in some cases, be attempted by venesection; but the author notices that repeated abstraction may also prevent the end in view, by diminishing the coagulability of the blood. For this reason he trusts to sedatives and the application of cold. Purgatives are also indicated to moderate the tendency to plethora (p. 147).

26. *Chronic Heart Disease*.—In order to illustrate the subject of disease of the

* Archives Générales, Novembre, 1847.

† Medical Gazette, Jan. 21.

heart in its various bearings, Dr. Blakiston divides a large number of well-narrated cases into two categories, according as they were or were not accompanied by obstructions to the general circulation. An examination of those cases shows that the principal alteration in the walls of the heart were hypertrophy, attenuation, and softening. The chief alterations of the valves and orifices were such as to prevent the proper action, to diminish the size of the orifices, or else to weaken them so that the valves could not close them. The effects of these alterations were either obstruction to the current of blood, or the production of regurgitation. The causes of the valvular changes are described as threefold: 1st, atheroma; 2d, inflammatory thickening, vegetations, and adhesions; 3d, simple dilatation of either cavity, ventricle as well as auricle.

The effects of hypertrophy on the health, the author remarks, may be favourable or unfavourable, according to circumstances. Thus a certain amount of hypertrophy is natural as age advances, and the diminished elasticity of the vessels require greater force in the heart's action. So also when it occurs in connexion with obstructive or regurgitant disease of the aorta, it is salutary. Hypertrophy acts unfavourably on the health by retarding venous circulation, when regurgitation through the auriculo-ventricular orifice takes place, or by inducing congestion of the lungs and general arterial capillary system.

The effects of simple attenuation do not appear, from the author's cases, to be readily determined, neither were the effects of softening to be clearly traced.

Lesion of the *aortic* valves alone does not appear to be serious, as death did not result in a single instance in the author's experience. When, however, it exists to any extent, it rarely fails to superinduce other and more dangerous cardiac mischief.

The effects of disease of the *pulmonary* orifice cannot be estimated from their rarity. Disease of the *mitral* valve is far more serious in its consequences. Of the 39 cases reported by the author, 12 died suddenly; and of 27 others which died of pulmonary congestion, those valves were incomplete in 24. Regurgitation through these valves is more serious than obstruction, unless the latter exist to a very marked degree. *Tricuspid* regurgitation to a slight amount is considered by the late Mr. Wilkinson King to be a normal condition, but when in excess it offers a formidable obstruction to the return of the blood from the general venous system, and is thus a potent cause of general dropsy. This is seen in the comparison of 34 cases of dropsy arising from cardiac disease, reported by Bouillaud; in 24 of which tricuspid regurgitation existed, and in others it was combined with dilatation of the cavities, so that there were only three cases in which there was not either tricuspid regurgitation or obstruction. The same proportion has also been remarked by Dr. Blakiston in his own cases.

27. *Diagnosis of Chronic Heart Diseases.*—This important subject is treated of in chapter xii. Dr. Blakiston divides the causes of cardiac derangement into *inorganic* and *organic*; the former including, 1, dyspepsia; 2, hysteria; 3, hyperemia, 4, anæmia. Any of these may give rise to palpitations, intermitting pulse, dyspnoea, &c.; and it therefore is of importance as to prognosis to be able to recognise their effects. This, the author observes, may generally be done with facility in the case of dyspepsia and general nervous irritability; but in anæmia a bruit exists, which cannot at once be known from that arising from diseased aortic valves. He states, as a distinction, that it is seldom persistent, and is generally accompanied by the venous murmur; and is always soft and blowing.

If an *organic* cause is decided to exist, it is next to be determined what is the nature of the change or changes. This the author endeavours to ascertain as follows:

If the contractile power of the heart is *increased*, as a constant symptom, it denotes hypertrophy; in which case the precordial dullness will be greater than usual, and the systolic sound will be muffled. If the heart's power is *diminished*, it may arise from attenuation or softening, and possibly from adhesion of the pericardium. In simple dilatation the precordial dullness is increased, and the sounds of the heart become clearer and sharper than natural. When softening exists, the sounds, as well as impulse, are feeble.

Dr. Blakiston considers that there is no sign by which adhesion of the pericardium can be recognised

In seeking a localization of *valvular* derangement, the author states that if there be neither urgent dyspnœa nor signs of general obstruction of the circulation, the aortic orifice may be suspected. If urgent dyspnœa alone be present, we should look to the mitral orifice. If there be signs of obstruction to the general circulation, tricuspid obstruction, with or without disease of the left side, may be suspected.

The author sums up the signs of valvular disease as follows:

AORTIC ORIFICE—*Obstruction*. Systolic murmurs traced up the aorta.

Regurgitation. Diastolic murmur; visible arterial pulsation.

MITRAL ORIFICE—*Obstruction*. Sometimes diastolic murmur at the apex and lower angle of the scapula; without visible arterial pulsation; pulmonary engorgement.

Regurgitation. Sometimes, but not often, systolic murmur at the apex; occasionally undulations between the second and third ribs; pulmonary obstruction.

TRICUSPID ORIFICE—*Regurgitation*. Seldom any murmur; jugular pulsation; general venous obstruction.

28. We have now, in the last place, to give a short notice of the author's views on the *treatment* of chronic heart disease.

The author first remarks on the well-known frequent origin of chronic disease in attacks of pericarditis, and states his belief, in which we fully concur, that recoveries with a sound organ would be more common if general bleeding were seldom resorted to, and mercurial action more rapidly established than is usually done. He recommends mercurial inunction over the præcordia as a precautionary measure in all cases of acute rheumatism. He also describes two other forms of pericarditis which are often overlooked; the one is that which is apt to follow severe injuries and operations; the other is thus described: "The patient complains of some slight ailment, it may be, of the head, chest, or abdomen, and is treated accordingly; but on the relief of such symptoms the pulse remains sharp and frequent. The sounds of the heart are seldom affected. After a time the pulse falls, and the patient slowly recovers. In four such, after an interval, valvular disease supervenes."

29. In the general treatment of cardiac affections the author is guided by the circumstance of the presence or absence of obstruction to the circulation. In the latter case he resorts to leeches and sedatives, especially local anodyne frictions. If pulmonary obstruction is present, he insists strongly on ascertaining the state of the mitral valve. If this does not admit of regurgitation, we are to be cautious in lowering the heart's action. If there be regurgitation, the force of the ventricle is to be slightly diminished, as above mentioned. Bronchial secretions may be solicited by expectorants, as squills with ether and camphor. If the heart's action is feeble, a tonic regimen is called for.

When, in addition, the general circulation is obstructed, the capillaries are to be relieved, by exciting the secretions of the kidneys, bowels, and skin. If digitalis be given as a diuretic, the author advises its combination with ammonia, to guard against its depressing effects.

We here conclude our notice of Dr. Blakiston's volume, and can pronounce it to be the work of an accomplished clinical physician. Although it cannot lay claim to much originality, either in matter or method, it exhibits qualities which readily entitle it to a place beside the recent works of Latham and Crisp, of which we have formerly given some account.

The next communication to be noticed is one by Dr. Barlow; which consists of cases and observations illustrative of the

30. *Etiology of Enlarged Heart*.—Dr. Barlow commences by stating that enlarged or hypertrophied heart may originate in obstruction to the passage of the blood out of the organ, and consequent increased effort on the part of the parietes. This accumulation of blood may arise from two classes of causes:

1st. Obstruction in the orifices of the heart, or in the remoter course of the circulation.

2d. Obstructions from changes in the quantity or quality of the blood itself.

Dilatation may also ensue from two causes, viz.

1st. Increased quantity of blood in the cavities of the heart.

2d. Insufficiency of strength in the walls of the heart to overcome the ordinary distending force.

Consequently, enlargement, or hypertrophy with dilatation, originates in a combination of these causes.

The author, in proceeding to illustrate the manner in which obstruction to the circulation causes enlargement of the portion of the heart situated behind the point, commences with the right side, giving an instance of enlargement of the right auricle and ventricle, consequent upon pulmonary obstruction. The case in question was one of chronic bronchitis with dilated tubes. He alludes also to another condition of the lungs, often seen in young persons, which may induce the same condition of heart, viz., an imperfect development of the lungs, independently of structural lesion. This condition, which is usually associated with small trachea and pulmonary artery, is said to offer a virtual impediment to the circulation.

[It does not appear to have occurred to Dr. Barlow, that in the subjects in whom this congenital defect is observed, there are usually evidences of deficiency in the quantity of blood contained in the general system, and that there is, therefore, something like a balance between the circulating fluid and the pulmonary expansion. Such has been the case in our own experience; and we should, therefore, be little inclined to anticipate the cardiac derangement in question from that cause alone.]

Dr. Barlow has also observed an enlarged right heart from adhesion of the pericardium, before growth is completed.

The next source of the same effects is obstruction of the mitral valve, which acts through the medium of the lungs. Of this complication an instructive case is given. He next proceeds to the orifice of the aorta and its valves, obstructive disease of which, he observes, frequently terminates in sudden death from syncope, and occasionally and indirectly by allowing of pulmonary engorgement.

Disease of this portion of the heart, as well as of the aorta and arteries, which he next considers, produces its first effects upon the left side of the heart, the effect being propagated backwards.

The second class or causes of enlargement of the heart, viz., those arising from change of quality in the blood itself, remains to be noticed.

Simple plethora, or actual increased quantity of blood, is a condition of the existence of which the author is skeptical, but he is fully aware of the agency of impoverished blood, as in Bright's disease, in inducing hypertrophy and dilatation. This fact he explains upon the supposed correctness of the observations of Magendie, that a viscid fluid is propelled through capillary tubes more readily than water. He, however, admits the more probable explanation upon the supposition of the loss of muscular power by the heart from impaired nutrition.

In conclusion, the author enumerates the following circumstances which may damage the heart, viz., long-continued bronchitis—anything which tends to prevent the expansion of the lungs—pericardial adhesion, intemperance, and excessive muscular exertion—disease of the depuratory organs—neglected chlorosis—hemorrhages, and, above all, repeated abstraction of blood.*

31. *Dissecting Aneurism*.—We give an additional instance of this form of aneurism, reported by Dr. Pirrie. The subject of it was a man, æt. 50, who died suddenly. In the arch of the aorta, about three quarters of an inch to the left of the origin of the left subclavian artery, there was a rent of the inner and middle coats. From this rent to near the origin of the aorta, and for upwards of an inch in the capillary side, the external coat was separated from the middle, around two-thirds of the circumference of the vessel. The aneurism had burst into the pulmonary artery.†

32. *Rupture of the Cordæ Tendineæ on the right side*.—Dr. Bentley Todd narrates an instance of this rare lesion, accompanied by pathological remarks of considerable interest. A man had received a stab in a scuffle, which was followed by pleurisy, necessitating repeated venesection. A month after the injury he vomited blood. When admitted under Dr. Todd, he was anæmic, with general anasarca

* Guy's Hospital Reports, vol. v. p. 273-285.

† Monthly Journal, Nov. 1847.

and indurated liver, cough, orthopnea. After death, which resulted from rapid effusion into the pleura, the heart was found to be hypertrophied and dilated, especially on the right side. The valves were healthy, excepting the tricuspid, the anterior portion of which hung loose in the ventricles, the cordæ tendinæ being completely broken across.

In commenting upon the above case, Dr. Todd remarks that the accident was probably due to distension of the ventricle, from an obstacle to egress of the blood, which obstacle was to be found in the state of the lungs during the struggle before mentioned.

The symptoms were progressive, and evidently due to tricuspid regurgitation, and the inevitable series of pathological events which such a condition gives rise to.*

33. *Cause of "Bruit de Diable."*—Every practitioner is familiar with the humming sound heard in the cervical region in anæmic subjects, but few are induced to reflect on the mechanism of its production. In a recent communication in which the subject is investigated, Dr. Bellingham admits two distinct murmurs attendant on the anæmic condition—one continuous, the other intermittent: the former being venous, the other arterial.

The conditions necessary for the production of murmurs in the circulation are stated to be—

1. A certain degree of roughness in the lining membrane of the vessel.
2. A certain strength or rapidity of the blood-current.
3. A certain degree of density of the blood itself. When the three conditions are simultaneously present, the murmur will be heard in its highest intensity.

In the morbid state in which the "bruit de diable" is heard, Dr. Bellingham observes that the first condition is absent, the lining membrane of the blood-vessels preserving its natural smoothness, but the other two are present, the current being more rapid, and the density of the blood diminished; a greater amount of friction, therefore, takes place, and a murmur is produced in the arteries, of an intermittent character, occurring during the ventricular systole.

In the veins, however, the current being more feeble, some other explanation is required; and it is necessary to resort to mechanical obstruction, to account for the murmur. In the case in question the sound is developed in the jugular vein, as may be readily ascertained. In order that friction, sufficient to develop the sound, should occur, Dr. Bellingham conceives it to be essential that the platysma and cervical fascia should have a certain degree of tension, which can be effected by turning the patient's head, so as to put the side of the neck examined upon the stretch. If a certain degree of pressure be now made by the stethoscope, so as to diminish the calibre of the vessel, a murmur will be developed, and will be continuous, because the venous current is continuous. If the pressure be carried beyond a certain point, so as to disturb the blood-current, the sound ceases. Dr. Bellingham is, therefore, of opinion that there is really no abnormal sound in the vein, but that it is due solely to the pressure exercised by the stethoscope.

[He omits to add that the blood is in a state more readily to be thrown into vibrations. In a healthy subject the murmur cannot be developed by any amount of pressure. There is nothing new in the explanation of the production of the sound by the pressure of the instrument. The novelty in Dr. Bellingham's views consists in the part he assigns to the tensile action of the platysma and cervical fascia, as explanatory of the many anomalies attendant upon the existence of the murmur—such as the variety of intonation, its disappearance one day, and re-appearance the next, &c., all which may, according to him, be ascribed to the accidental degrees of tension to which these structures are submitted by the posture of the patient.]

In a discussion to which the enunciation of these views gave rise, Dr. Benson differed from Dr. Bellingham, in not attributing so much to the effect of pressure by the stethoscope. Dr. Byrne mentioned as a practical fact, that anæmic females, in whom this murmur was observed, were not predisposed to phthisis. This view is corroborative of what we had considered as a fanciful theory advanced by Trou-

* Dublin Quarterly Journal, Feb. 1848.

seau,—that it is unsafe to cure chlorosis, as the chlorotic and tubercular cachexiæ are antagonistic, and by removing the one, we often lead to the induction of the other. Our own experience is directly opposed both to the one and the other statement; we have continually met with the anæmic venous bruit in persons in whom the presence of advanced phthisis was undoubted.]*

§ IV.—*Diseases of the Chylopoietic System.*

We have but little to record during the past six months in this section of our Report. The following are the subjects of more particular interest in addition to those given in our extracts:—

34. *Intestinal Obstruction.*—Mr. Phillips read a paper on this subject before the Medico-Chirurgical Society, with the object of elucidating the diagnosis of the cause and seat of obstruction, and also the propriety of resorting to a surgical operation for relief. The author based his observations on 169 cases, of which he stated such particulars as tended to exemplify the varieties of obstruction, and at the same time exhibited the great similarity of the symptoms. After showing the more ordinary symptoms, he inquired whether there were any combination by which particular varieties of obstruction could be recognised. The result of a careful analysis of symptoms and cases went to satisfy the author's mind that no arrangement of symptoms is so definite or constant as to make a diagnosis of the cause of obstruction conclusive. Supposing an operation to be resorted to, it is of course very desirable to ascertain the seat of the affection; and here the difficulties are not less formidable than those which occur in attempts to determine the cause of the obstacle. The history of the case may give assistance in some instances, the existence of a tumour in others, and the distended intestine in a few cases; but in most instances we shall be left in doubt. The author then stated the results of ordinary treatment; and concludes that there are cases in which recourse to surgical operation is justifiable. He showed that the abdominal walls have been cut through in more than fifty cases, for the purpose of affording relief, stating the particulars of many, and the results of all; showing that of those operations, twenty-four appear to have terminated favourably. He showed, further, that some of those operations were undertaken with a view to seek the obstacle and to remove it, but in very few instances has the object been accomplished, the ordinary result being the establishment of artificial anus; and he regarded this as the only practicable result of operation in cases which do not prove fatal.

In the discussion which ensued, Mr. Hilton stated that in the cases which he had seen of impassable obstruction in the upper part of the jejunum, the deficient secretion of urine was a most remarkable feature; and he believed when this symptom was observed in association with a flattened or concave condition of the abdomen, the two in combination might be considered almost pathognomonic of the seat of the obstruction being near the stomach. He would merely take this example as an instance of what he thought might possibly have been ascertained if the contents of the paper had been grouped in reference to the position of the obstructing cause. Mr. Hilton agreed with the author regarding the propriety of the median section of the abdominal parietes, when the operation was deemed necessary, and the exact seat of the obstruction not known; but after opening the abdomen, instead of attempting to trace the distended intestine, with the view of reaching the constricting cause, he would prefer the plan which he had himself adopted, of tracing the empty intestine towards the constriction, and using it to discover the obstructing cause. In some of the cases related in the paper, it was mentioned that large and distending quantities of air had been thrown into the intestines, with the intention of relieving the obstruction. He doubted the propriety of such a proceeding; for he had observed in practice, and as the result of direct experiment upon the intestines in lower animals, that extreme distension causes paralysis of the intestinal muscular fibres. He could fully confirm an observation the author had made, that although the long tube may have been introduced into the rectum to the extent of two feet or more, instead of its having travelled to an equal length along the intestinal canal, it had actually gone but a very short distance, and had then become coiled upon itself.

* Dublin Med. Press.

Dr. Todd disagreed with Mr. Hilton, in considering a flat or concave state of the abdomen a diagnostic mark of the obstruction being situated high up, and related two cases, in which the abdomen was flat and concave, the intestines containing no gas, in both of which instances the obstruction was low down. The conclusion he had come to, in reference to the flaccid state of the abdomen, in cases of obstruction, was this—that if inflammation existed, tympanitis was present, and if it did not exist, the belly was flat or concave. As to the question, whether, in obstinate constipation, we should, or should not, administer purgatives, he was convinced, that after the first day or two we should do away with purgatives altogether; or, if we did use them, we must employ the gentlest and mildest of these agents. He had not seen cases of this kind cured by means directed particularly to the removal of the obstruction, although, in one instance, the obstruction had yielded to the introduction of a moderate quantity of air into the intestines. He did not advocate the use of a large quantity of air in these cases, as such a proceeding was likely to paralyse the intestines.

Dr. Bright remarked that our diagnosis of the situation of the stricture in cases of internal strangulation was but imperfect, but he had observed, in one or two cases in which the obstruction was situated in the small intestines, the peristaltic action of these could be seen more distinctly than when the obstruction was in the colon. There was, however, in most cases, excessive difficulty in arriving at a knowledge of the exact seat of the strangulation. He suggested that the paper might be incorrect in its statistics of the fatality of these cases, as it only appeared to embrace those instances of the disease which might be almost considered hopeless, for it was well known to what a great extent, as to time, obstruction might exist, and yet the patient get well, contrary to the expectation of the practitioner in attendance. He remembered several cases of this kind, in which the operation proposed might have been resorted to, as apparently the last and only remedy. He related one case in which constipation, with vomiting, had existed for six weeks, the abdomen eventually becoming as large as that of a pregnant woman at the ninth month. This patient eventually did well. In these cases all violent means, whether purgatives or others, should be avoided after the first few days, the patient receiving more benefit from mild and gentle remedies.

Remarks of much value were also made by Dr. Copland and Mr. Travers.*

35. *Gelatiniform Cancer of the Peritoneum, Ovaries, and Lymphatic Glands.*—Dr. Ballard has recorded the annexed case:—A female, who had suffered from menorrhagia and prolapsus uteri, after striking the abdomen found the body began to enlarge, especially in the hypogastric region. She began to vomit a few months previously to her admission at the dispensary. On being visited, she presented the appearance of a person labouring under some severe organic disease, and was considerably emaciated. The abdomen was greatly enlarged, dull on percussion generally, and fluctuating most distinctly; it encroached very much upon the limits of the thoracic cavity. The umbilicus was remarkable in being stretched and flattened out, and not prominent as is customary in ascites. The case was believed to be one of ascites, arising from cancerous disease about the larger divisions of the portal vein, and under part of the liver; fibrous tumour of the uterus was detected, and encysted ovarian disease believed to be likewise present. She was tapped on the 24th, but only a teaspoonful of clear jelly passed from the trocar, and she died on the 26th. On examination of the body, the peritoneal cavity was discovered to be full of a very tenacious and gelatinous matter, emitting a very sickly odour. A large ruptured ovarian cyst, containing a similar matter, occupied the lower part of the abdomen, and there were several smaller cysts about the inlet of the pelvis. The whole peritoneal surface of the abdominal wall and diaphragm was infiltrated with colloid cancer, as also was a considerable part of the peritoneal coat of the liver and spleen. There was a large tumour lying upon the right side, which was formed by the omentum and mesocolic glands converted into colloid; and the mesenteric glands, with those about the under surface of the liver, were similarly affected. This diseased mass was connected below with a fibrous tumour of the uterus. All the gelatinous products, wherever found, presented the characteristic cells of cancer. In commenting upon the case, the author introduced his remarks

* Lancet, Nov. 20.

by observing, that, although colloid cancer of the peritoneum was not of very unfrequent occurrence, he had failed in his search after a case at all approaching it as regards extent, and he had been unable to discover another recorded instance in which colloid matter had been found free within the cavity of the abdomen. He believed that the disease had commenced in the mesocolic glands, from which it had spread upwards over the liver and spleen to the abdominal wall, and downwards to the omentum and ovaria; and that the general effusion of colloid into the peritoneal cavity had taken place subsequently to the rupture of the ovarian cyst from the blow which the patient had received upon the abdomen. These opinions were supported by considerations deduced from the appearances after death, and from the clinical history of the case.*

* 36. *Treatment of Ascites by Iodine Injection.*—A case is related in the "*Gazette Médicale*" (Mars 4), in which a cure was effected by injecting into the peritoneal cavity a weak solution of iodine. The patient, a child *æt.* 7, had been tapped several times, but the abdomen had always refilled, and he was in all but a hopeless condition when the above plan was resorted to. It was a case of asthenic dropsy, and no disease of the heart or other viscus could be discovered.

† V.—Diseases of the Genito-Urinary System.

We have received the fifth edition, revised, of Dr. Prout on "*Stomach and Urinary Diseases.*" Praise would be entirely superfluous respecting a work which the profession has long and unanimously regarded as the standard authority upon the diseases of which it treats: suffice it to say, that the present edition brings each subject up to the knowledge of the day, at least as far as such knowledge can be made available. Much of the minute chemical study which has of late been so prominently brought forward in connexion with urinary maladies is regarded by the author with little favour. We consider that we shall benefit these of our readers who do not possess this admirable work by urging them to lose no time in becoming possessors of it, and masters of its contents.†

37. Two important contributions to the pathology of the kidneys, which we are now called upon to notice, are to be found in the last volume of the "*Medico-Chirurgical Transactions.*" Of these the first is on *subacute nephritis*, by Mr. Simon; the second on *the inflammatory diseases of the kidneys*, by Dr. Johnson.

The first of these essays is made up chiefly of anatomical observations illustrative of the changes induced by subacute inflammation of the kidney, which it will be superfluous here further to allude to, as they will doubtless meet with due consideration in a Report on Pathological Anatomy, by Dr. Day, which it is our intention shortly to publish. There are, however, certain views propounded respecting the disease familiarly known as *morbus Brightii*, which it is our province to notice.

The author calls in question the fact announced by Dr. Bright, that the "mottled" and the "contracted" kidney are different stages of the same lesion, and affirms, on the contrary, that they indicate different pathological actions. The mottled kidney he refers to the fatty degeneration, the "steatosis" of Gluge, and this he believes does not in any case become contracted. The contracted kidney he considers to be one of a series of changes the pathological affinities of which do not point to stromous degeneration as does the other, but to chronic or subacute inflammation as it occurs in certain blood-diseases, in rheumatism, fever, &c. He suggests that the term Bright's disease should be discontinued, and its place be taken either by the term subacute nephritis or scrofulous degeneration, as the case may be, both these forms of the disease being comprehended in the disease to which Dr. Bright has given his name.

The diagnosis of the two forms of disease does not appear to be well laid down by the author, for in fact he trusts entirely to the microscopic evidence of oil-globules entangled with the fibrinous casts common to both, as the only distinctive part of the scrofulous form.

* Reported in *Lancet*, &c.

† On the Nature and Treatment of Stomach and Urinary Diseases, by William Prout, M.D., F.R.S. Fifth ed., pp. 596.

In reference to treatment, Mr. Simon's injunctions may be thus briefly summed up—local blood-letting, if the general condition of the patient warrants it; the vapour-bath; avoidance of diuretics; careful diet.

38. The essay by Dr. Johnson is occupied with the descriptions of four morbid conditions of the kidney, which he severally describes as—1st, acute desquamative nephritis; 2d, chronic desquamative nephritis; 3d, simple fatty degeneration; 4th, a combination of fatty degeneration with desquamative nephritis.

In all these diseases he remarks, morbid materials are deposited in the urinary tubules, portions of which being washed out are mingled with the urine. The diagnosis which he considers as of great moment, is to be made by the microscope. For a more minute description of the microscopical appearances in each, we refer to the original.

In the treatment of these diseases, Dr. Johnson insists upon two indications—1st, to prevent further development of the products, the excretion of which by the kidney induces serious structural changes; 2d, to relieve the kidney as much as may be by exciting the action of other elementary organs, as the skin and bowels.*

39. *Alkaline Urine*.—Dr. Rees points out that urine which is secreted normally acid may become alkaline during its transmission through the urinary passages (independently of delay in the bladder), and that such cases are benefited by alkaline medicines. He narrates a case in illustration.†

We may here call the attention of our readers to a series of papers now publishing by Dr. Gairdner, on the pathology of the kidney. We defer our notice of them till they are complete.‡

§ VI.—*Diseases of the Skin.*

40. We have to notice two works by Mr. Erasmus Wilson in this department, both of which have appeared since our last Report. Of the first of these, "Portraits of Diseases of the Skin," two fasciculi of which are published, it is impossible to speak too highly. As a work of art, the "Portraits" have not only never been surpassed, but have not even been approached by any previous delineations of skin disease. The plates are most beautifully coloured, and are as correct as beautiful.

The other work to which we have alluded, is a brochure entitled "Ringworm, its Causes, Pathology and Treatment." The term "Ringworm," observes Mr. Wilson, ought to be restricted to diseases which cause the hair to fall from brittleness, and with this restriction the term is accordingly used by him; under this denomination therefore two diseases only are arranged, viz., true favus and scurfy ringworm (*Porrigo scutulata*, Wilson) which he calls "*Trichonosis furfuracea*." To each of these the author devotes a chapter, embracing a minute description of its characters, analogies, causes, and treatment. The most startling announcement contained in the volume is, that these diseases are not contagious—an assertion with which Mr. Wilson will scarcely find many to agree, especially after the direct evidence to the contrary which Dr. Hughes Bennett has afforded by means of inoculation. It is true that several other attempts, made by the same writer and by others, have failed, but it must be remembered that one well-ascertained positive fact is worth any amount of negative ones. Mr. Wilson also disputes the vegetable origin of favus as is maintained by Gruby and Dr. Bennett, but he admits in a foot-note that he has not had time to investigate the researches of these writers, and it is not improbable, therefore, that future inquiries may induce him to modify his opinion.

Mr. Wilson's observations on the treatment of these usually intractable complaints will well repay perusal.

41. *Danger of Reprising Skin Diseases*.—Several instances have occurred in the practice of M. Devergie, illustrative of the danger which may arise from the repression of chronic skin diseases. The narrator of the cases sums up as follows:—1. The functional disturbances of the internal organs occur simultaneously with the subsidence of the skin disease. 2. The severity of the symptoms is propor-

* *Medico-Chirurgical Transactions*, vol. 30, p. 188.

† *Monthly Journal*, April, May, &c.

‡ *Med. Gazette*, Ap. 7.

tionate to the extent and severity of the skin disease. 3. The symptoms cease on the return of the cutaneous irritation. 4. Death may occur more rapidly than from similar internal disease produced by other causes. 5. If the internal disease be healed antiphlogistically, death is precipitated, and a fatal result always ensues if the eruption cannot be restored or an artificial one excited.*

[A case, which made a deep impression, occurred to the writer of this Report a few years back. It was that of a man labouring under extensive psoriasis, but in other respects in perfect health. He was put upon an arsenical course, when in a few days the eruption had almost disappeared, but at the same time he complained of dyspnoea, and died with the symptoms of pleurisy in 48 hours. On examination, the right pleura was filled with sero-purulent effusion. This was distinctly an instance of internal inflammation of a low type, excited by the repercussion of the cutaneous malady, and is calculated to enforce caution in the treatment of old-standing skin affections.]

42. *Elephantiasis*.—[Instances of this curious disease are so rare in this country, that we do not hesitate to insert the following, reported by Mr. Southam, which might, moreover, claim to be considered as remarkable even had it occurred in a tropical climate.]

The patient was a female. The disease had existed twenty years, commencing when she was eighteen years of age. It began on the dorsum of the foot, and was preceded by pain and fever. After oedema appeared it became permanent and slowly extended up the leg. The patient was little inconvenienced for the first eight years, excepting by the bulk of the limb; but as the swelling approached the thigh the pain became more severe, especially in the thigh, and the integuments were the seat of frequent erysipelatous attacks which were attended with a discharge of clear watery fluid. A few years ago a large ulcer formed on the inside of the thigh, and recently three others made their appearance near the ankle. Although these discharged abundantly, there was no diminution in the limb. The measurement round the calf of the leg was 2 feet 9 inches, above the knee 3 feet 4 inches, and at the upper part of the thigh 5 feet 6 inches. The limb had a lobulated form.

The general health of the patient did not suffer in the first instance. Her death occurred from an attack of dysentery.

An examination of the limb was instituted, and the enlargement was found to have been caused by the deposit of a lardaceous matter interspersed with fat into the subcutaneous cellular tissue. The muscles were small but of natural appearance. The principal venous trunks were much larger than usual, distended like injected arteries, and were patulous when divided. Their external coat was thickened, and, except in a few places, the middle and internal ones could not be traced, both being apparently converted into a thick fibrous tissue, disposed round the vessel in laminae, not unlike the contents of an aneurism. The outer ones were of a firm texture, and pale brown colour. Those near the centre were soft and spongy. The same appearance existed in the smaller veins, some of which were completely impervious. The saphena was converted into a thick fibrous cord. The arteries were small and their coats thin.†

[The author regards the pathology of elephantiasis as consist in inflammation of the capillary veins; and considers that the disease bears an intimate relation to phlegmasia dolens, and the scleroma of infants, the apparent differences depending on the different degrees of venous obstruction.]

43. *Molluscum Contagiosum*.—Dr. Cotton gives an account of a family, consisting of father, mother, and six children. The disease first showed itself four months back, upon the arms and hands of the eldest girl, æt. 14 years, subsequently in the youngest, an infant, æt. 6 months, after three months in another daughter, and on the arms and chest of the mother—the father, two sons, and one daughter remaining free.

In every case it began in the form of round movable tumours, of the size of a pin's head, gradually increasing to that of a pea, and presenting a central depression like that of small-pox. These small tumours were nearly covered with

* *Gaz. de Hôpitaux*, No. 110.

† *Med-Chir. Trans.*, Vol. xix.

epidermis, and were red and shining, but soon became thick and wart-like from induration of the cuticle.

In this disease the surrounding skin is always free from irritation; the tumours are arranged in groups of two to six, which never coalesce, and they are occasionally pedunculated. During their early stage, an opaque white or cheesy-looking matter exudes from the central point on pressure; but as the disease advances, the contents of the tumour become hard and lobulated. This substance is composed of two distinct elements with an intermixture of epithelium and granules. The stromal substance consists of irregularly-waved fibrils, crossing each other in all directions; the intra-stromal is formed of spherical or elliptical cells more or less granular, but devoid of nuclei.

The small central depression, evidently formed by the closed opening of a duct, the lobulated form of their contents, and the absence of the tumours in those parts which are without sebaceous glands, clearly indicate these organs as the seat of the disease; but the difference between the contents and inspissated sebaceous matter, shows that molluscum is not produced by mere retained sebaceous secretion. The disease, as observed by Dr. Cotton, appeared to have two modes of termination, either the secretion escapes before it becomes hard and the tumour consequently disappears, or it is retained, and, becoming indurated, gives rise to a permanent wart.

As the general health of all the patients was good, the author's treatment consisted in removing the tumours and checking the tendency to their production by frequent friction of the body with a rough towel. In their early stage, nitrate of silver was found sufficient; but when in advanced stages, the author removed them by knife or ligature, or pressed out their contents and cauterized afterwards with nitrate of silver. The last plan he thinks succeeded the best.*

PART III.—MATERIA MEDICA AND THERAPEUTICS.

SECT. I.—MATERIA MEDICA.

§ I.—*Medicines derived from the Mineral Kingdom.*

44. *Peresquinate of Iron*.—In 1832 Mr. Kerr pointed out the power of this medicine in chronic diarrhoea, and he is now led to call attention to it again as a remedy for Asiatic cholera. He states that an experience of eighteen years has confirmed his views of its great value. It is not, however, serviceable where ulceration of the bowels is present, and is therefore inapplicable in the diarrhoea of phthisis. He has also lately given this medicine with advantage in urticaria, and narrates a case which yielded speedily to it after resisting other remedies. It is also potent in allaying hiccup.

The formula which Mr. Kerr prefers for its manufacture is

Iron wire (No. 17), one ounce.
Nitric acid, three fluid ounces.
Water, fifty-seven ounces.
Muriatic acid, one drachm.

Mix the nitric acid with fifteen ounces of water, in an earthenware vessel capable of holding three or four times the quantity. Put into this the iron wire broken into a number of pieces; cover the vessel lightly. In eight or twelve hours the solution to be poured off, and the remainder of the water, with the muriatic acid, is to be added.

When properly prepared, this solution is the colour of dark brandy.†

45. *Tartrate of Potash and Iron*.—M. Mialhe states, that though this preparation contains above 30 per cent. of the peroxide of iron, its ferruginous flavour is so slight that it will be tolerated by stomachs which resist other martial preparations

* Edinburgh Med. and Surg. Journ., Jan. 1848.

† Monthly Journal, May 1848.

It has also the advantage of not constipating the bowels.* [We are in the constant habit of using this preparation in effervescence with carbonate of soda and tartaric acid, and can confirm the above remarks.]

46. *Iodide of Potassium, injurious effects of.*—M. Rodet has contributed a series of papers to the "*Gazette Médicale*," setting forth the ill consequences which follow the injudicious use of this valuable medicine, and the means of preventing them. We take the following remarks from a translation in the "*British and Foreign Medico-Chirurgical Review*."† The author adduces several propositions thus:

1st. In the physiological condition the iodide exerts its action on certain organs, and when this action becomes pathogenetic, it is exerted upon one of these organs, or any organ which is already suffering irritation.

2d. The iodide will rarely, if ever, produce serious effects, if given, only in cases which evidently require it.

3d. It is, in general, not well borne in cases in which mercury is indicated.

4th. The iodide acts the more favourably if the patient has not been treated by other measures. The author considers it a mischievous error to suppose that the iodide of potassium is an antidote to the mercurial cachexia.

Prevention. The author's precepts are, 1st, the medicine should never be given, except in cases where it is absolutely required. With the exception of syphilis, it is only efficacious in scrofulous diseases, and in glandular and other engorgements. In syphilis, M. Rodet advises that it should never be given in the primary or secondary symptoms, and always to employ it in the tertiary symptoms at first, and afterwards to associate mercury with it, if necessary, rather than increase the dose. [M. Rodet limits the advantages of this medicine too closely. Its power in chronic rheumatism, and its advantages as an auxiliary diuretic, are undoubted.]

2d. Iodide must be employed with the more circumspection in proportion to the quantity of mercury which has been previously taken.

3d. Whenever the disease for which iodine is given is complicated with inflammatory action of any organ, this should be subdued before the medicine is exhibited.

4th. The iodide should never be given in larger doses than is strictly necessary. [This strikes us as the most important caution of the whole. The medicine is too frequently given in excess in this country as well as abroad; and this it is that causes it to fall into discredit.]

§ II.—Medicines derived from the Vegetable Kingdom.

47. *New Vehicle for holding Camphor in Solution.*—Sir James Murray proposes a new vehicle for holding camphor in solution, which may be exhibited in doses considerably greater, and with less irritation, than it has hitherto been given. It was known that camphor is insoluble in water, and that when given in almond emulsion it very readily separates on the addition of water, and that the same separation takes place on adding water to a solution of camphor in spirits of wine. The opinions respecting the effect of camphor are various. Some describe it as a stimulant, and some as a sedative; but this difference of effect depends mainly on the quantity given. Now, Sir James Murray has found that the fluid magnesia was capable of dissolving camphor to the extent of three grains to the ounce of the solution, and that adding water to the mixture did not cause any cloudiness or separation of the camphor. An ounce of this solution contains three grains of camphor, which appears perfectly clear, like water; and if anything is added to the solution capable of withdrawing a portion of the water, such as dry common salt, a rough estimate may be formed of the quantity of camphor which it contains. To employ camphor as a sedative, it must be given in large doses; but it is also necessary to have it perfectly dissolved, for when free it acts as a powerful stimulant. It is obvious, then, that given for this purpose it would not do to employ the camphorated spirit, nor will the solution in emulsion be any better, as it readily separates from it in the stomach. We have, therefore, he observes, a

* *Union Médicale*, No. 2, 1848.

† April 1848.

menstruum in the fluid magnesia, which answers better than any method hitherto known.*

48. *Lycopus Europæus*.—This plant is recommended as a substitute for quinine. It is given either as a watery or as an alcoholic extract. Its active principle is termed lycopine.†

49. *Santonine*.—M. Taccinei suggests that this medicine should not be given in combination with a purgative, when our object is to destroy intestinal worms. It should be allowed to remain some time in the intestines before a purgative is exhibited; by which means the destruction of the parasites is more surely accomplished.‡

50. *Adansonia Digitata*.—This is another substitute for quinine, introduced by M. Duchassaing. Numerous trials justify him in affirming that the powdered bark possesses strong febrifuge powers, and has an agreeable taste. It is said to have succeeded when bark had failed. Dose: One ounce of decoction.§

51. *Asparagine*.—This is the active principle of asparagus, and is suggested as advantageous in heart diseases. Its effects are sedative.||

52. *Quinine, Poisonous Effects of*.—Our readers, by referring to Vol. III, Arts. 2 and 3, will see that quinine is given in Florida, and other miasmatic portions of the new world, in very large doses; and it is maintained that no ill consequences are to be observed. The contrary is, however, maintained by Dr. Baldwin, who shows that this practice is really attended with danger, and states, in one instance which came under his own eye, a much smaller dose occasioned death. Children present greatly less tolerance of the remedy than adults. In the fatal case, eight grains given in two doses, with an interval of three hours between each dose, to a child of six years, brought on dilatation of the pupils, extreme restlessness, convulsions, blindness, and death. In another case reported by Dr. Baldwin, sixty-eight grains introduced into the system in the course of twenty-four hours, induced the train of symptoms characteristic of the poisonous action of this drug, viz., tremors, slow and irregular breathing, restlessness, dilatation of the pupils, blindness, and convulsions.

Several authors (Mérat and de Lens, Duval and Trousseau) mention cases in which serious effects have ensued from the immoderate use of quinine. Melier (Mém. de l'Acad. de Méd., tom. ix) says that the following effects have been distinctly observed to result from large doses of quinine in man: delirium and coma, pneumonic symptoms, hematuria, amaurosis, deafness, convulsions, paralysis, and death.

Startled by the serious results occasioned by the use of quinine in the cases above noted, Dr. Baldwin commenced a series of experiments on animals, with the view of determining its poisonous action. He found that the symptoms developed in animals by poisonous doses of quinine, were general restlessness, speedily followed by "muscular agitation, or tremulous movements of the body and extremities, with a constant motion of the head resembling somewhat paralysis agitans. When under the full operation of the poison, the power of locomotion, and even of standing in the erect position, was altogether lost, and the extremities apparently paralysed." Great excitement of the vascular system is said to have been present, the pulse rising to 110, and in some to 240 beats in the minute, accompanied with great oppression of breathing and frothing at the mouth. The pupils were much dilated, and, as far as could be judged, vision was entirely lost—convulsions were observed in every case but one. "In a few instances, the subject seemed as if stunned by some sudden blow, or a violent fit of apoplexy; the latter effect was only observed when it was given to young dogs by the jugular vein or peritoneum." Purging was present in some cases; and when the medicine was given by the stomach, vomiting invariably ensued, unless the œsophagus was tied.

The time required to produce death varied greatly; in some instances 15 to 20 grains proved fatal in a short period; while in other animals, on administration of 120 grains, death occurred only after a long period; peculiar idiosyncrasies, as in the human subject, appearing to favour or retard its action as a poison. The

* Dublin Medical Press, Dec. 15, 1847.

† Ibid.

‡ Ibid., March 1848.

† Gazette Médicale, No. 6, 1848.

|| Revue Méd. Chir., Jan. 1848.

quinine was in some cases introduced into the stomach, in others injected into the peritoneum and into the jugular vein. Its effects were equally exhibited by each mode of administration, but not with more certainty or force when given in one way than in another. The chief post-mortem appearances were "a dark, fluid, and defibrinated condition of the blood," a congested state of the lungs, and a "vascular and highly-injected state of the stomach and bowels," and congestion of the vessels of the brain.

The results obtained in Dr. Baldwin's experiments coincide with those obtained by others.—(Melier, *Mém. de l'Acad. de Méd.*, tom x. Giacomini *Dict. de Med.*, vol. xxvi.)*

53. *Muriate of Opium*.—Dr. Nichol recommends this as the best preparation of opium, never inducing headache.

It is made as follows:

Take of the best powdered opium, \mathfrak{zj} .

Muriatic acid, \mathfrak{zj} .

Distilled water, \mathfrak{zxx} . Mix.

Shake this mixture very frequently every day, during fourteen days, then strain and filter. The dose is from twenty to forty drops, according to circumstances. Many of my medical friends have tried this preparation, and they highly approve of it.

SECT. II.—THERAPEUTICS.

54. *Anæsthetic Agents*.—Whatever sensation may have been excited by the occurrence of fatal cases from the inhalation both of ether and chloroform, it must be acknowledged by those who do not wilfully shut their eyes to the onward progress of medical science, as well as to the claims of humanity, that the exhibition of these agents for the amelioration of physical pain, will henceforth form an integral portion of our therapeutical resources. There perhaps has never been an instance in the history of invention, of a discovery having in so short a time taken so great a hold on the public mind, or having been so thoroughly and extensively investigated. Such, indeed, has been the avidity with which these agents have been used, and so great the readiness in giving to the world the results of individual experience, that our task of reporting upon the mass of papers lying before us, from all parts of the globe, appears insurmountable; and we might reasonably pause on the threshold of our analytical endeavours, were it incumbent upon us to notice *all* the communications which have been forwarded to us, or extracted from various journals. This, however, is as unnecessary as unprofitable; and we shall consider that we have done all that our readers will expect of us, in giving a brief analysis of the more important. In this Report it is our intention only to allude to anæsthetic agents in their general therapeutical capacities. Their special applications in surgery and midwifery will be given in our Reports on these subjects respectively.

55. *ETHER*.—We have given so detailed an account of the anæsthetic properties of ether in a former Report, that we shall not here begin *ab initio*. It had, indeed, become at one time a question whether this agent would not be entirely superseded by chloroform; such, however, was not found to be the case, as there are several writers who even now prefer ether under *all* circumstances to chloroform, and there is a still larger number who hold that it is preferable under *certain* circumstances.

56. *Fatal Case from Ether Inhalation*.—In our former Report we expressed the opinion that the cases then adduced as fatal from the influence of ether vapour were far from satisfactory, as establishing that point; but in the following case, which occurred in the Hôtel Dieu, it is more probable that death was really to be attributed to the vapour, as there was nothing in the nature of the operation itself, or the patient's previous condition, to account for the fatal result.

On the 10th of July, a man æt. 55, of robust constitution, was etherised for the removal of a tumour. After inhaling two or three minutes, considerable agitation was observed in the face and limbs; during five minutes more the inhalation was continued, and complete insensibility induced. The first incision was per-

* *Southern Med. and Surg. Journal, and Monthly Journal, May 1848.*

formed, when the dark colour of the patient's countenance attracted the operator's attention, and the man almost immediately expired. On dissection, the viscera exhaled a powerful odour of ether, the blood was viscid, and the lungs were deeply congested.*

57. *General Effects of Ether.*—Mr. Wells has published the results of the inhalation of ether in one hundred and six cases, including various operations. He states that no serious ill effects followed in any case. In only one was uneasiness excited; this was a little girl, who, although not more than a minute under the influence, suffered from vomiting and fainting for nearly an hour, and remained for eight hours in a state of complete intoxication. The operation being only that for the cure of strabismus, could not have induced any such condition. In three delicate women, hysteric laughing and crying followed, but never lasted more than a few minutes. One young lady appeared to be in a profound sleep for four hours, but on recovery said she had been quite sensible of everything that had occurred during all this time, although she was quite incapable of either speaking or moving. In no male was any ill effect observed. The wounds in every case presented a healthy appearance, and the processes of granulation and cicatrization were apparently in no way affected by the etherization of the patient. In nine cases the inhalation was discontinued on account of suffocative feelings or convulsive motions of the patient; in fifty-two the patients either cried, started, or moaned during the operation, but, on recovery, said they had felt no pain, although, in fourteen instances they were conscious of what was being done; in forty-five the success was complete, the patients giving no sign of sensibility during the operation, and on recovery appearing quite ignorant that anything had been done. The sensations described by different persons were extremely various; generally there was some heat in the mouth and difficulty of breathing, followed by vertigo and conscious loss of muscular power preceding insensibility. By some, pleasant dreams, indescribable but delightful sensations, rapid flights through the air, gorgeous visions, and unearthly music, were described in glowing language; by a few others, a sense of great oppression, resembling nightmare, was complained of; in many others, as total a temporary suspension of all the mental faculties and cerebral functions had taken place, as in the most profound sleep, nothing being remembered after the first few inhalations until the period of returning consciousness. In those cases where flushing of the face, turgescence of the neck, or convulsive motions, led to a discontinuance of the inhalation, nothing more than difficulty of breathing was complained of.†

58. *CHLOROFORM.*—This anæsthetic has now been so extensively employed that we are warranted in coming to some definite conclusions respecting its merits. That it is a more powerful agent than ether cannot be questioned, as the insensibility which it occasions is more profound, and produced with greater rapidity. For this reason, however gratifying it is to be in the possession of such a resource, it cannot be denied that in inexperienced hands it is less safe than ether, and in all cases requires to be exhibited with more caution. One of its properties, which every one who uses it should be well acquainted with, is its tendency to cumulative action, that is to say, the insensibility produced by it will often become more and more profound after the cessation of the inhalation. We have known sleep to be induced some minutes after the inhaling had been suspended, the patient at the time of taking the sponge away being perfectly conscious. This property is alluded to by Dr. Snow (Lancet, Feb. 12), and also by M. Sedillot.

It would appear, from the tenor of several communications, that a great difference exists in the different samples of chloroform which have been submitted to the public. It is only in this way that we can explain the great variety of effects which have been met with. As it is of importance that an agent so powerful should be prepared with as near an approach to uniformity as possible, we shall give the most recent formula for its preparation.

59. *Preparation.*—M. Soubéiran recommends a mixture of ten parts of chloride of lime and 60 parts of water. This is to be introduced into a copper alembic, which it should only two-thirds fill. Two parts of alcohol are then to be added, and distillation commenced. At the period when the heat has risen to 170°, a

* Journ. des Connais. Méd.-Chirurg.

† Med. Gaz., Sept. 1847.

difficulty occurs from a tendency to boil over; at this time the fire must be reduced, when the distillation will proceed tranquilly. To obtain the chloroform, the upper and lighter fluid is decanted, and the lower stratum is washed with carbonate of soda, and afterwards rectified on chloride of calcium. M. Soubeiran does not consider a redistillation with sulphuric acid to be necessary.*

Of several samples which we have had an opportunity of testing, the most pure appeared to be some which was forwarded to us by Duncan and Flockhart, of Edinburgh, prepared under the superintendence of the discoverer, Professor Simpson. This was a perfect clear and limpid fluid, free from the straw-coloured tinge which we have observed many specimens to possess.

60. *Physiological Effects.*—Experiments with chloroform have been recorded by the Medico-Chirurgical Society of Edinburgh, and by Mr. Wakley, Jun.: the latter consisting of a series of 100 observations on various animals. From the result of these it would appear that there is no material difference in the gradation of effects produced between chloroform and ether, the action of each being distinguished by several stages, indicating its successive operation upon the different divisions of the nervous system. Dr. Snow† considers that these different degrees of variation depend upon the different preparations of vapour dissolved in the blood at the time. For producing the second degree of insensibility, in which there were loss of consciousness and impairment of voluntary motion, $\frac{1}{4}$ th part of what the blood would dissolve was found sufficient; for producing the fourth degree, when all voluntary power is abolished, $\frac{1}{2}$ th was required. The experiments for determining these points consisted in ascertaining the smallest quantity of vapour, in proportion to the air, which would suffice to induce a given effect, and were performed in the following manner:—A small quantity of the liquid to be examined was weighed, and put into a very large glass jar, carefully closed, and when the vapour was equally diffused, a small animal (generally a bird, or a mouse) was introduced, which was allowed to remain for some time after the effects of the vapour had ceased to increase. At the point at which the effects became stationary, the tension of the vapour in the blood balanced the tension of that in the air in the lungs, at the temperature of the body, which being already known, the quantity in the blood could be calculated. The results obtained agreed with experience as to those vapours which had been administered to patients. Chloroform required about 288 parts of serum of the blood to dissolve it; and taking M. Valentin's calculation, that the human body contains, on an average, about twenty-six pounds of serum, it was found that twenty-four minims was the twenty-eighth part of the quantity the blood would take up—the quantity, consequently, for producing complete insensibility. When allowance was made for the vapour, which reached no further than the trachea, and was, therefore, not absorbed—this agreed with experience. The quantity of ether required was found by calculation to be considerably larger, on account of its much greater solubility; and these experiments showed the cause of the rule he had stated on another occasion, that the more soluble a volatile substance was, the greater was the quantity required to produce a given effect; and that, consequently, when the volatility was taken into the account, the strength of this class of substances was in the inverse ratio of their solubility. He considered that the vapour of these substances did not become decomposed, or enter into any chemical combinations in the body, but produced its effect by its mere presence, impeding those combinations between the oxygen in the arterial blood, and the nervous tissues, on which the functions of the nervous system depend.‡

61. *Influence of Chloroform on the Blood.*—From experiments on dogs, Mr. Gruby has ascertained:

1st. The arterial blood is more red (at least, as red) where chloroform has been inhaled, than (or as) where it has not.

2d. The venous blood becomes of a clear red colour under the use of chloroform, losing its usual reddish-black tint.

3d. Venous blood in an animal under the influence of chloroform is more red

* Journal de Pharmacie, Dec. 1847; and Lancet, Jan. 1848,

† Lancet, May 13, 1848.

‡ Ibid.

than non-chloroformized arterial blood, and nearly as scarlet as such blood when penetrated by chloroform.

Hence it would appear that chloroform, far from rendering the hue of arterial blood venous, augments the intensity of its red colour; and, more than this, that it imparts the arterial colour to venous blood.

In his experiments, M. Gruby was careful to use an instrument which allowed a due supply of atmospheric air to mix with the vapour of chloroform in inhalation; and to the omission of this precaution he would, in a great measure, attribute the different results which have been obtained by others.*

62. *Effects of Chloroform and Ether on Animal Temperature.*—MM. Dumeril and Demarquay have communicated to the Academy of Sciences a series of experimental researches on the modifications of animal temperature produced by ether and chloroform, and on the physiological action of those agents.

They state that the temperature is peculiarly lowered in animals submitted to the influence of the vapour of those intoxicating agents; that this depression is greater from ether. This effect is constant, whether the vapour be introduced into the respiratory passages, or into the rectum. Section of the pneumogastric nerves, almost simultaneously with the application of the inhaler to the mouth, does not modify the results obtained when those nerves are uninjured. The temperature is depressed also during reaction, consequent on the section of one of the pneumogastric nerves, twenty-four or forty-eight hours before inhalation. The authors further believe that these facts warrant the conclusions, that ether does not act primarily in the manner of an asphyxiating agent, but that the asphyxia induced is but a secondary effect following the penetration of its vapour into the economy; that the phenomena of etherization set out from the disorder they induce in the central nervous system; that the asphyxia is but consecutive, and if fatal, it is because etherization has lasted so long as to abolish the functions of the medulla oblongata, the last part of the nervous centres acted upon by the agent.

They further state that a loss of sensation, together with a depression of temperature, is brought about also by brandy; but that narcotics, instead of lowering animal heat, raise it, save for a very brief period, immediately after their ingestion.

The injection of ether-vapour into the rectum shows that, apart from the disorder of the respiratory function, there is a depression of temperature, which must arise from a special action of the nervous system. If, then, the source of animal heat be in the process of blood-making, and the latter be immediately dependent on the nervous system, the possibility of a modification of temperature by any cause acting primarily upon the system, is at once seen.

As a further result of their experiments, MM. Dumeril and Demarquay state that the action of ether and of chloroform is rapidly fatal, since they have seen it destroy dogs in thirty-five or forty-five minutes, and even in less time, with reference to chloroform.

63. *Pathological Effects.*—The physiological action of chloroform and its pathological action, may be regarded as differing only in degree. When carried beyond a certain point in all individuals it is capable of producing death, and short of this convulsion, and a depth of insensibility, which may be considered as a pathological condition. There are, however, certain persons who appear peculiarly susceptible of its agency, and in them unpleasant if not dangerous symptoms are induced when least expected. Many such instances, which it is unnecessary to particularize, have been placed on record; the unpleasant effects being chiefly vomiting, especially when inhalation follows soon upon a meal; headache persisting for several hours; hysteric or tetanic convulsion; and formidable depression of the heart's action.†

64. *Fatal Cases from Chloroform.*—That chloroform will destroy life is well known from the experiments of Mr. Wakley and Dr. Glover on the lower animals; but it is satisfactory to know that as yet there have been only three, or at the most four, cases in which death in the human subject has been attributed to this agent. The first instance, which excited great attention at the time, and occurred in the

* Bulletin des Académies.

† Vide Paper by Dr. Nevins, Med. Gaz., March 3d; by Mr. Stewart and Dr. Gull, ib.

practice of Mr. Meggison, a surgeon at Newcastle, is given below in this gentleman's own words.

"I much regret that the melancholy duty of communicating what I believe to be the first fatal case of the administration of chloroform should devolve upon me; but I consider I should not be doing my duty to the profession generally did I not make public this case. The patient, a fine-grown girl of fifteen, had been suffering for some time past from onychia of the left great toe, the matrix appearing involved extensively. After consulting with Mr. Lloyd, my assistant, we deemed it absolutely necessary that the nail and matrix should be completely removed. I ought to say that, about a year previously, the nail of the great toe had been removed at the Newcastle Infirmary; but, the matrix having been left, the disease had spread, and induced necrosis of the distal phalanges of the toe, rendering amputation necessary, the propriety of which we merely urged, thinking to do it after the operation had been performed on the other foot.

"During the previous operation she was under the influence of ether, and said she felt no pain nor inconvenience from it except a severe headache afterwards, and great uneasiness during the inhalation, from irritation of the fauces. We assured her she would feel none of that irritation from the use of chloroform, and that in the cases in which I had used it, the headache, if any, had been transient. The whole of the day previous to the operation she had been fretting much, and apparently dreading it, crying continually, and wishing she were dead rather than submit to it. In this state we found her on Friday last, at noon, when we went to perform the operation. We endeavoured to console her, and calm her fears, assuring her that she would not feel it, and urging her to be more collected; but in vain. She sat down in the chair sobbing. I poured a teaspoonful of chloroform on a handkerchief, and, on applying it, she drew her breath twice, and pulled my hand down. I asked her to put her hands on her knees, which she did, and breathed quietly for about half a minute, when, no stertorous breathing or change of appearance supervening, I lifted her hand, and, finding it rigid, requested Mr. Lloyd to remove the nail and matrix. This was dexterously done with one sweep, at the termination of which she kicked out, and I, thinking the chloroform not sufficiently potent, was proceeding to apply more to the handkerchief, when her lips, which had been previously of a good colour, became suddenly blanched, and she spluttered slightly at the mouth as one in epilepsy. I threw down the handkerchief, and gave her cold water immediately, followed by brandy. This, however, had not the least effect, not the slightest attempt at rallying being made, and in a minute more she ceased to breathe. A vein in the arm was opened, as also the jugular, but no blood would flow. The whole process of inhalation, operation, bleeding and death, could not, I should say, have occupied two minutes."

The body was examined after death, and it was found that the lungs exhibited the greatest amount of pathological change, being congested to a degree very unusually met with.

This unfortunate case, as might be expected, has excited very considerable discussion; the opponents of chloroform making the most of it to deter the public from submitting to its agency; its advocates seeking to establish some other explanation of the fatal event than that arising out of the direct action of chloroform.

Foremost among the latter is Professor Simpson, who endeavours to prove that the girl did not die from the effects of chloroform, but was in fact asphyxiated by the means adopted for her restoration. With this object, Dr. Simpson points out, in the first place, the small dose employed, and the fact, that at the time of the operation, and immediately after it, the girl was not in a state of very deep anaesthesia, as she kicked and moaned, and her breathing and pulse were unaffected. While still torpid and lethargic, however, and perhaps in a state of fainting after the operation, the surgeon, unfortunately, filled the patient's throat and mouth with water and brandy, with the intention of reviving her. But this fluid she was incapable of swallowing in her partially faint and anaesthetic state. Consequently, at the first returning attempt at inspiration, a quantity of the fluid entered the throat, and the patient was instantly and fatally suffocated. She was choked or asphyxiated by her respiration being prevented by the layer of fluid placed over the top of the windpipe; and to produce this suffocating or drowning effect in her then torpid state, it mattered not whether the layer of fluid were ten lines or ten fathoms

in depth—whether it merely covered and submerged the opening of her windpipe, or covered and submerged her whole body. She was directly asphyxiated or drowned, by a *sufficient* quantity of liquid being placed for this effect over and around the entrance of the larynx.

Dr. Simpson then remarked, that the appearances observed after death in the congested lungs, trachea, epiglottis, &c. &c., of the Newcastle patient, were, one and all of them, precisely those observed after choking or drowning (which he showed by referring, in detail, to the published observations of Dr. Copland, Carpenter, &c., on these points): while they were quite different in some essential particulars, from those observed in the bodies of various animals killed intentionally by chloroform-inhalation, by a committee of the Medico-Chirurgical Society of Edinburgh. Thus, for instance, in the Newcastle patient, the blood was found after death fluid in the heart (as it is in all rapid cases of simple asphyxia and drowning); while the Edinburgh committee found the blood firmly coagulated in the heart in every animal which was made to inhale chloroform to a fatal degree.

The Professor next pointed out that death would inevitably occur to any person in deep apoplexy, narcotism, &c., if during these lethargic states the mouth in the same way were filled with liquid, so as to prevent the entrance of air, and the power of swallowing were at the same time temporarily suspended. The Newcastle patient was reported as having died "from the effects of chloroform;" but she died from the effects of artificial asphyxia when chloroformed. If a man were made insensible by opium, and then asphyxiated by a wet towel being laid over his nose and mouth, no one would report that he had died "from the use of opium," but from the effects of artificial asphyxia when opiated. Dr. Simpson expressed his sincere conviction, that if the patient had been simply left alone, and *nothing* had been done, she would have rapidly recovered, like all other patients, from the state of *anæsthesia*. It was the means used to revive her that produced death; not the chloroform-inhalation. He then went on to say, that in any case where the *anæsthesia* remained too deep or too long, the adoption of artificial respiration formed the proper measure of resuscitation—not the prevention of all respiration, by filling the mouth and throat by stimulant or other fluids. In a paper on chloroform, written in November last, and published in the "*Monthly Medical Journal*," Dr. Simpson had warned the profession that chloroform was an agent so potent as liable to produce serious consequences, and even death, when improperly used. He said he had for some time expected to hear (though the present case was not one) of fatal results from it alone, knowing, as he did, the many thousand cases in which it was now constantly employed in Great Britain and throughout the Continent. Dr. Simpson commented on the immense quantity of chloroform already made and sold here and elsewhere, and on the consequent vast numbers of persons that must have been already safely placed under its influence; and he stated that perhaps the use of as many thousand common doses of any of our common medicines, such as opium, antimony, senna, &c., by as many thousand different persons and constitutions, would probably scarcely have been accompanied with equal safety and equal impunity in the results. He cited several cases in which (before the introduction of ether and chloroform) surgical patients had died on the operating table ere the operation was begun, during it; or immediately after it was finished; and when the operation was by no means severe. Every such case happening for years to come will, of course, be eagerly ascribed to chloroform, though such things not unfrequently happened long before chloroform was ever known. And supposing even it did prove fatal, when indiscreetly managed, in one rare case in a hundred thousand, it would be no reason to argue against its utility, any more than there would be reason in arguing against the utility of coaches and railways, on the ground that occasionally, from carelessness, an accident or death occurred among the passengers. He concluded by stating that he had the satisfaction of believing that, by saving much human suffering and agony, chloroform had already saved much human life. Such a case as the present was well calculated to teach a salutary degree of caution; but it could and would do no ultimate injury to the general adoption and spread of the practice of *anæsthesia*.

—On the other hand, Dr. Snow, who took part in the discussion on the case, does not hesitate to admit that the chloroform was the cause of death, and attributes

It to the rapidity with which it was administered, and the concentrated form in which the vapour was consequently inhaled. He, as we have before stated, has noticed the cumulative action of the vapour, and that it is therefore not possible to judge of the ultimate effects of the inhalation from the effect produced at the time the inhalation is discontinued. This cumulative action would of course be proportionably great, as the inhalation was rapid, and the vapour concentrated.

We are disposed to adopt Dr. Snow's explanation in preference to that of Dr. Simpson; but we do not on that account consider any fair objection to the use of chloroform can be deduced from it, nor, indeed, had the deaths been fifty instead of one or two; the proportion is so small in comparison with the thousands of instances in which benefit has been derived, or at least no injury sustained, that we should still have less reason to abandon its exhibition than we have for abolishing the use of opium.

—The second death from chloroform occurred in the person of a chemist's apprentice, who was in the daily habit of using it by pouring it upon his handkerchief. While inhaling in this manner, his head appears to have fallen forward upon his saturated handkerchief, which he had placed on the counter, and he was therefore as effectually destroyed as were the animals in Mr. Wakley's experiments.

65. Therapeutical Application.—Chloroform has been used with variable advantage in many diseases of the nervous system. In *delirium tremens* it has been found to produce sleep after the failure of large doses of opium. In *mania* it has tranquilised the patient, but without producing any permanent benefit. In *tetanus* it has been successful in one case; in others it has aggravated the symptoms. In *chorea* it has failed. In *neuralgia* it has been very serviceable when the pain did not depend upon organic disease, or was not accompanied by symptoms of cerebral disturbance.

A marked instance of its advantage in *infantile convulsions* has been recorded.

It has also been given advantageously in *asthma*, to subdue the *cramps of cholera*, in *renal colic*, and in *dysmenorrhæa*.

Since his attention has been given to the subject, some other fluids have been discovered and tested by Dr. Simpson, which are capable of inducing anæsthetic insensibility. These are thus described by Dr. Simpson:

66. Chloride of Hydrocarbon.—This is one of the fluids to which the name of chloric ether was for some time given. It is composed of four atoms of carbon, four hydrogen, two chlorine ($C_4H_4Cl_2$), sp. g. 1.247, boils at 148. Dr. Simpson states, that it can rarely be inhaled so as to produce perfect insensibility, on account of the irritation of the fauces which it causes; but in one case in which it was perseveringly inhaled, anæsthesia was induced, without excitement of the pulse or subsequent headache.

67. Nitrate of Ethyle is a transparent, colourless fluid, made by distilling two parts alcohol, one part of nitric acid, and a small quantity of urea. Its formula is $(C_2H_5)ONO_2$. It is easy and pleasant to inhale, and possesses rapid and powerful anæsthetic properties. It, however, generally produces great headache and giddiness.

68. Benzin is a clear, colourless liquid. Its formula is C_8H_{10} . Dr. Simpson found this also to produce great subsequent cephalic disturbance. Dr. Snow found it succeed very well in four cases of tooth-drawing; but he does not consider it suited to severe operations.

69. Aldehyde.—This is a limpid, colourless fluid, with a formula of $C_4H_8O + aq$. It was found by Dr. Simpson to be all but irrespirable.

70. Bisulphuret of Carbon.—This fluid is obtained by passing the vapour of sulphur over fragments of charcoal heated to redness in a closed porcelain tube. It is clear and limpid, with a specific gravity of 1.272. Dr. Simpson found it a rapid and powerful anæsthetic. Some persons described it as pleasanter to inhale than chloroform; but in others it produced disagreeable headache and prostration. It is not, in his opinion, to be compared to chloroform either in manageableness or effects.*

71. In connexion with the subject of anæsthetics, we may mention a paper by

Dr. Silvester on the ancient mandrake, *Atropa mandragora*. This paper displays considerable research, but is a disquisition rather curious than useful.*

72. *Cod-liver oil*.—We have to record certain recent communications upon the powers of this medicine. The following account of the chief forms of disease in which it has been found useful is taken from an essay on the "History of the Fish-liver Oil," published in the "Gazette Médicale de Paris."

Chronic rheumatism.—According to Alexander, Knood von Helmsendstreit, Amelung, Brefeld, Basse, Fehr, Galcoma, Mall, Moeunig, Münzenhaler, Michaelis, &c., who have all published their own observations concerning the fish-liver oil in chronic rheumatism, this medicine possesses such an efficacy in this disease that it surpasses in their eyes all the other remedies, without excepting the most lauded anti-rheumatics.

This opinion of different physicians, who have all experimented by themselves, cannot be taxed with exaggeration, if it is considered that amongst these cases there are found numerous instances of rheumatic patients being cured, who, after many years of suffering, and usage of all sorts of remedies, having lost their strength and despairing of cure, were completely cured by the aid of the fish-liver oil.

Rheumatic sciatica.—The fish-liver oil did not prove less efficacious in this form of chronic rheumatism, which is generally distinguished by its obstinacy; this is verified by the observations of M.M. Knood von Helmsendstreit, Rust, Amelung, Münzenhaler, Settenger, and Spitter.

Scrofulous diathesis.—Although there are various observations published in support of the excellence of this oil for certain severe forms of confirmed scrofula, it requires something, candidly speaking, which will prove its efficacy in the scrofulous diathesis with certainty. The cause of this doubt ought not to be looked for in this circumstance, that the liver oil is less applicable in the scrofulous diathesis than in certain of the more severe forms of scrofula, but that the greater part of physicians are in the habit of only publishing their observations of the more severe cases. But if we consider that the scrofulous diathesis is the principle from which emanates, by the accession of aggravating circumstances, all the numerous and often dangerous forms of scrofula, and that the liver oil is in our eyes a true specific for the more severe forms of this affection, it is evident that this medicine is that which ought to counteract this principle with most certainty. Such is the opinion of M. Brefeld and Dr. Galama, who say that the liver oil is the most efficacious remedy for the scrofulous diathesis, and for no matter what form of confirmed scrofula.

Confirmed scrofula.—Amongst the facts relative to the use of the liver oil in some of the manifold forms in which confirmed scrofula is presented, the most remarkable are those which Drs. Brefeld and Roppe have made known, the result of which is that this medicine universally is fit for all forms and kinds of scrofula. The principal forms of scrofula in which it has succeeded are given below.

Swelling of the lymphatic glands.—Under this title we have only to do with the swelling of the superficial lymphatic glands, situated immediately under the skin, in the region of the throat, to the nape of the neck, armpits, or groins.

The fish-liver oil is considered a certain and infallible remedy in swellings of the lymphatic glands which appear oftenest, first under the form of hard unequal tumours, nearly immovable and insensible, but which afterwards, when inflammation has laid hold of the cellular tissue which surrounds them and the skin which covers them, they become inflamed, and suppurate in their turn. The cure always requires a much longer time where these swellings are connected with a confirmed scrofulous diathesis. This also can be advantageously influenced by the external use of the oil by frictions on the painful and inflamed tumours; this way of employing the medicine is that which has prevailed and which is recommended by the greater number of practitioners in this form of scrofula. But if the fish-liver oil is efficacious in swelling of the lymphatic glands of a scrofulous origin, it is absolutely useless in swellings of the same glands which are the consequence of smallpox, measles, of scarlatina, or even those which are developed in the course of syphilis, or of a carcinomatous affection.

* Medical Gazette, and Pharm. Journal, May.

Scrofulous Ulcers.—The effect of this medicine is quicker and more remarkable in scrofulous ulcers, with fungous and irregular borders, generally so difficult to cure, which arise either from suppurative inflammation of lymphatic glandular swellings, or from the dissolution of those indurated strumous tumours which are found so often in subjects of a scrofulous constitution, in all parts of the body indifferently. It has the same effect also in different traumatic lesions which so frequently become the origin of ulcers in subjects of a full scrofulous habit. Dr. Brefeld relies greatly on the external use of this oil, with which he prepares an ointment which he applies to the ulcers by means of a pledget. In one case, notwithstanding, treated by the oil internally, the result was as favorable. The strumous tumours, which we have referred to above, and which ought to be distinguished from lymphatic glandular enlargements, are perfectly cured by the fish-liver oil, even after they have passed into the ulcerous state, provided that the oil be administered in proper time; it was the same in the case of the tumour being on the point of becoming an abscess. The tumours decreased during the internal and external administration of the medicine, and it seems they became dried up.

Chronic exanthemata.—The fish-liver oil has been proved equally efficacious in the chronic exanthemata which are developed under the influence of a scrofulous diathesis, whether they occupy parts of the body covered with hair or places which are destitute of it.

In this case, some say they have obtained the best results from the internal use of the oil, while others pretend, on the contrary, to have obtained as good results by the external use of the same remedy. The usage of it externally, tried for the first time with success by Dr. Guerard for scald head, is principally recommended by Dr. Brefeld, and who pretends, what is more, not to have obtained any good result from the internal use of the liver oil in the exanthematous form of scrofula.

The milky scurf, so often observed in ill-nursed children, in whom there has never before been observed any symptoms of scrofula, and which, according to Dr. Brefeld, forms the transition of true scrofulous exanthemata; the exanthemata which are observed on the long-haired skin of young children, and which often envelops the whole face; scald head, which is not uncommon to see last till the age of puberty; and, finally, the scrofulous exanthemata which comes out on every other part of the body, were quickly cured, according to Dr. Brefeld, by the external use of the liver oil, and even after that in some cases they had for a long time used the internal treatment in vain. Experience taught him that the use of the liver oil, either externally or internally, had no effect on malignant, hereditary, or contagious scald head, even when combined with oil of turpentine by the advice of Dr. Martens; the same may be said of some psoriacal and syphilitic exanthemata.

Dr. Hauf reports a case of humid herpes causing an insupportable pruritus, which, after having resisted all sorts of remedies, was cured by the use of friction of fish-liver oil.

Rachitis.—The fish-liver oil is, without exception, the best remedy for rachitis, in all its stages, and under whatever form it presents itself; such is the nearly unanimous opinion of the German and Dutch physicians, who affirm with one accord that it is much superior to any of the so-called anti-rachitic remedies. According to Dr. Schmidt, who has most insisted on the advantages of this medicine, in twenty-one rachitic patients which he had treated at the time when he made known his results, thirteen were cured, four were in process of being cured; as to the others, judging from the progress which they had made for the little time they were under treatment, a very favourable prognosis might be drawn.

In France, far from partaking of the enthusiasm of the German physicians for this medicine, they have kept on their guard, perhaps with an exaggerated distrust: its efficacy in rachitis has nevertheless appeared to some placed beyond doubt. We have said that M. Bretonneau, and M. Trousseau, by his example, had obtained good results. It is in these terms that Professor Trousseau expresses himself on this subject: "We have often obtained cures, the rapidity of which surpassed our expectation. Sometimes, after four days of treatment, the sharp pains which the children felt in all their limbs ceased; and the bones, which could be bent, acquired, at the end of five days, a considerable solidity."

General conclusions.—Chemical researches have taught us that the fish-liver oil

ought to be considered as a very compound medicine. Greasy neutral matter, bilious matter, iodine, phosphorus, each of them well known as possessing great therapeutic efficacy—also a certain number of organic elements, such as butyric acid, gaduine, and some others, the medical action of which is less known—finally, various inorganic salts, as the phosphate and sulphate of lime, chloride of lime, phosphate and sulphate of magnesia, are the substances of which it is composed.

But, it may be asked, to which of these components does the oil owe its special virtues? Is it to the iodine, fatty matters, phosphorus, or other principles?

If the diseases, for which the liver oil is administered with success, be duly reflected upon, it cannot escape any one that there are in each of them various indications to fulfil to obtain a cure. For the most part, there is debilitated digestion to be excited, nutrition to be regulated, secretions to be re-established, and the lymphatic system to be stimulated; while, on the other hand, the modifying of the organic nervous system is presented as one of the most important indications to be fulfilled. Neither the bilious matter, nor the fatty matter, nor the iodine, nor any other principle, whatever it may be, taken alone, is capable of satisfying at the same time all these indications, and it is not to any of these substances in particular that the fish-liver oil owes its medicinal properties, and the faculty of fulfilling so different and so numerous indications. But it is by the union and co-operation of, if not all, at least the greater number of these substances.

In this state of things, the active principle of the fish-liver oil cannot be discussed in particular, like the active principle of cinchona; but attention ought to be paid, if not to all, at least to the principal elements of the oil, as each of them satisfying special indications which the diseases for which this medicine has been proved efficacious, present.

The medical researches having proved that the black fish-liver oil is more efficacious in rheumatism and scrofula than the other species, and the chemical researches having shown, on the other hand, differences, if not qualitative, at least quantitative, between the three kinds of oil examined, it follows that the principles that are in greater proportions in the black oil than in the other two kinds, ought to be considered as those which best fulfil the principal indications. Therefore it is not the neutral fatty matters, which are found in nearly equal quantities in the three species, nor the iodine, nor the phosphorus, nor the organic salts, which are found in greater quantity in the pale oils than in the black oil, which can be considered as more efficacious than the other principles for the cure of rheumatism and scrofula. It appears, then, that it is to the bilious matter and butyric acid, rather than the other principles, that the greater part of the therapeutic effect can be principally attributed, for they are the substances which are found in the greatest quantity in the variety of oil proved to be the most active.

As to the matter unknown up to this time, and which M. Jough first proved the existence of, in the product of the analysis of the different species of *Gadus*, and to which he applied the name of *Gadine*, it does not appear, on account of its insolubility, at least in the condition in which it was examined, to have a right to be considered as an active principle of the fish-liver oil.*

—Dr. Bennett considers that the therapeutic action of cod-liver oil is due to its fatty composition, and its being perhaps more easily assimilated than other fats. He believes that in rheumatic and tubercular affections, the albuminous compounds are in excess, and the oily compounds deficient; that, therefore, the most rational treatment is to supply the deficient oily matters directly. He explains the failure of other oils to effect benefit, which might be expected, if the fatty matter is the active principle, upon the supposition that other oils, such as olive oil, are purgative. The author proceeds to state that he thinks cod-liver oil is destined, in the hands of the rational practitioner, “to be an important means of curing a class of diseases hitherto considered of the most dangerous and fatal character.”

Speaking of the effect of this oil in phthisis, Dr. Bennett's testimony is greatly in its favour; and, in fact, it may now be satisfactorily demonstrated that there is

* *Gazette Médicale*, and *Dublin Med. Press*.

no medicine or system of treatment which holds out so much encouragement in the management of consumptive cases.*

72. *Iodized Oil*.—M. Marchal (de Calvi), suspecting that the virtues of cod-liver oil are attributable to the small portion of iodine contained in it, gives the iodide of potassium dissolved in almond oil, thereby, as he considers, increasing its effect.† [We have for some time been in the habit of giving the iodide of iron in combination with the cod-liver oil, and have had reason to believe that its efficacy has thereby been augmented.]

73. *Iberis Amara in Chronic Bronchitis, &c.*—The advantages of this herb in chronic bronchitis, asthma, dropsy, and cardiac hypertrophy, are mentioned by Dr. Sylvester. Its action appears to be somewhat similar to, but less active than, digitalis, controlling the heart's action, without depressing its powers. The part employed is the seed. The dose 3 grs. with cream of tartar.‡

74. *Phellandrium Aquaticum in Disease of the Respiratory Organs*.—M. Michea states that he has frequently taken occasion to exhibit this substance in cases of bronchitis, chronic catarrh, pulmonary phthisis, asthma, and other affections of the chest, and has mostly derived favourable results from its application. The action which the seeds of *Phellandrium aquaticum* exercise on the respiratory organs seems to be both stimulating and sedative; they abate the violence of the cough, and diminish or relieve altogether the oppression of the chest by facilitating expectoration.

As regards the best form under which the seeds of *Phellandrium aquaticum* may be exhibited, experience has taught the author that this remedy may be advantageously given in powder, at the dose of about eight grains twice a day (mixed with sugar), or, better still, in form of syrup. The latter form is more convenient and agreeable than any other, and the curative effect seemed always more prompt and certain. The patient should be recommended to take from two to four tablespoonfuls of the syrup per day, and to continue the use of the remedy without intermission for six weeks or two months; at which period the beneficial effects of the phellandrium will become appreciable.§

75. *Use of Ice in Exhausting Diseases*.—Some interesting cases are quoted in a recent number of the "Revue Médico-Chirurgicale," from a French journal, in which ice taken internally seemed to be of great service in reviving powers fast sinking. The writer employs it in various diseased conditions, providing these manifest the signs of intense debility. The reaction it induces may prove curative in some cases; while in others, in which this is impossible, a marked temporary amelioration of the patient's state occurs. In the cases in question there are great atony and extenuation, and an extreme aversion to any food whatever, with or without a development of heat. A number of morbid states and organic lesions, having no other points in common, may induce this condition. Iced water does not succeed anything like so well as the administration of the ice in little lumps, which, by requiring time for their solution, ensure its gradual introduction. These impart great tone to the system, and revive the inclination for food in a remarkable manner.||

* "On Cod Liver Oil," Edinburgh, 1848; and Monthly Journal, May, 1848.

† Gazette des Hôpitaux, No. 13, 1848.

‡ Prov. Med. and Surg. Journal, July 28, 1847.

§ Répertoire de Pharmacie.

|| Rev. Med.-Chir., vol. ii. p. 163.

II.

REPORT ON THE PROGRESS OF SURGERY.

BY HENRY ANCELL, ESQ. M. R. C. S.

OUR readers will observe, in the present Volume, several extracts of which Mr. Vincent is the author (Arts. 46, 55, 63, 64, 69, 73, 76). This gentleman having been for a long series of years one of the principal surgeons to St. Bartholomew's Hospital, and having retired from that wide field of surgical experience, has favoured the profession with his "*Observations on some of the parts of Surgical Practice*," and, more especially, with the results of his reflections "*On the Claims that Surgery may be supposed to have for being classed as a Science*." Mr. Vincent endeavours, in the first place, to fix more clearly the precise distinctions that exist between science and art; he believes that the pretensions of surgery to the former are questionable, and his object is to show that surgeons have a duty incumbent on them, to improve the scientific character of their profession, and to afford increased benefit to the public by availing themselves, in their branch, of the powerful aids which real science must necessarily impart.

After describing the character of true science, that its seat is entirely in the mind, and that it depends upon the operations of the intellect, and after drawing as widely as possible the line of demarcation between science and that knowledge which is to be obtained by the mere perception, and showing that thought is not held in the distinction it is entitled to, few being either masters or judges of it, popularity being more easily acquired by those who have an insight into a great deal superficially than by the intellectual accomplishment of intense thinking,—and after broadly stating, that "opinion is so much the guide of medical conduct, that it is sometimes actually regarded and valued as much as a sound judgment,"—Mr. Vincent affirms, that the practice of surgery is at present little more than a collection of opinions, unstable and fleeting, and generally furnished by those whose position in the surgical society of the day gives them tone, and possessed of but small value in a scientific point of view, as proved by their unstableness; that surgery is, in fact, taught and pursued by prescription.

On the subject of *Operative Surgery*, remarks are made by Mr. Vincent which, by the more judicious of the profession, may be regarded somewhat as the expressions of a truism, but are yet worthy of record as the results of a long course of experience. We have lived long enough ourselves to have witnessed instances of disease in which the surgeon of the present day operated in the earlier part of his career, and now, after the lapse of years, having earned his reputation by operating, refuses to use the knife. We believe that in similar instances the younger surgeon, instead of profiting by the experience of his predecessors, is too frequently allured into the same career, and, by lapse of time, will read his juniors the dearly-bought lesson of his own proper experience.

The great importance attached to operative surgery is probably the origin of this evil. In Mr. Vincent's mind, operations do not confer any compliment to the scientific character of surgery;—surgeons—he proceeds to state more generally—"whose qualities of mind barely rise to that level in which intellect can direct them to real scientific studies, fix upon the display of operative surgery as a department in which they think to shine;" but a vast number of operations are continually performed, which would be inadmissible if science had enlightened surgeons and enabled them to form correct judgments. "Surgery, as a science, would decide many questions in the way of avoiding operations," and "the surgeon too eager for performing operations, is not likely to impart scientific principles

to his art. The improvement of surgery upon scientific principles," Mr. Vincent remarks, "must commence and proceed by investigating the more common instances of disease, by which there is afforded a larger field for making observations, a wider latitude for determining the relations, and a greater facility for obtaining the points of bearing the facts have with each other, than the consideration of rare specimens of disease can afford. In this way only is the greatest knowledge to be acquired." Attaching so much importance to rare cases does little more than give currency to ill-formed opinions. The inquiries now on foot to demonstrate the ultimate molecule of matter, is regarded by the author as another search after the philosopher's stone, or the monads of Leibnitz; and the impression existing in the minds of men that this is the best road that philosophy can take, is another impediment to the progress of scientific surgery.

Without giving their entire assent to all Mr. Vincent's views, our readers will no doubt admit that, in the main, they embrace much of the truth, and that our own pages are too frequently calculated to bear them out. At the same time, we are inclined to believe, that there is more of the truly scientific mind, even as strictly understood and defined by this gentleman, abroad amongst surgeons, than he appears disposed to allow. The slow progress of surgery as a science is the slow progress of our knowledge of the laws of vitality. The difficulties of surgical science are the difficulties of the science of life. Again, the accumulation of facts, the "perceptive knowledge," as Mr. Vincent describes it, is not to be found fault with; it is the paucity of these facts on any given subject, and the assumption of erroneous observations and opinions as facts, which constitute the obstacles, in many instances, to our arriving at scientific principles. It is a long-cherished opinion of our own, that a *Novum Organum* is the great desideratum, not only in surgery, but in the whole range of medical knowledge. All again must agree that there is too little intellectual culture in the youth of our profession; as Mr. Vincent beautifully expresses it, "the ant and not the bee is made the symbol of their endeavours;" but this remark is not exclusively applicable to surgical science; the foundation of the evil lies in the defects and erroneous principles of early and more general education. A discussion of these highly important subjects cannot be introduced into these pages; but we doubt not that Mr. Vincent, and our readers generally, will participate with us in the hope and belief,—although it is not every age, or every department of knowledge, which can boast a Newton,—that the anticipation, at no distant period, of a more philosophical system, a "*NOVA PRINCIPIA*" *MEDICINÆ*, giving unity and stability to the sciences embracing medicine, and surgery, is not altogether Utopian.

The *prevention of pain during surgical operations* appears now to be admitted as an established principle in surgery; instances of all the varieties of amputation, of lithotomy, hernia, the resection of bones, the removal of tumours, the reduction of dislocations, and, indeed, of all the greater operations in surgery, successfully performed during the insensibility of the patient, are recorded in the medical journals; and the superiority of chloroform over ether, as an anæsthetic agent, has been all but universally admitted. It is totally unnecessary to encumber our pages with a description of cases which present no peculiarity, except the circumstance of operations having been performed without pain, or without the consciousness of the patient, since nearly every surgeon in the kingdom must either have availed himself of the agent in his own practice, or witnessed it in that of others; but it is a notorious fact, that more than one individual has met with his death by the use of chloroform, and that unpleasant and even dangerous effects, as delirium, convulsions, &c., have manifested themselves in many cases. Although experience has proved that chloroform is possessed of all the advantages enumerated in the Report of the Editor in the last Volume of the "Abstract," p. 347, yet it appears to be a more powerful, and, as such, a more dangerous agent than ether, and, accordingly, every practitioner is called upon to make himself well acquainted with its physiological and pathological effects, and especially with the modifications of those effects which result from differences in the age, sex, and temperament of individuals, from varieties of constitution and diatheses, the existence of cachexies, or predispositions to disease, or the actual progress of local or general disease, and also with the immediate and remote effect, which, under the use of these powerful agents, may result from the absence, diminution, or altered state of

cænesthesis, in the various accidents and circumstances in which they are now employed.

In our last Volume (p. 198) our readers were made acquainted with Dr. Snow's observations respecting the use of *ether*, and the symptoms of the different degrees of etherization. In a communication made since the introduction of *chloroform* by Dr. Simpson, Dr. Snow states that the description of the different degrees of narcotism, from the action of the former, is equally applicable to the effects of the latter, and of other agents of a similar kind.* As in the use of ether, it is generally necessary to carry the effect of chloroform to the third degree, and sometimes to the fourth degree, to be certain of avoiding pain. Dr. Snow considers that ether has in general a greater anæsthetic effect than chloroform, in proportion to the narcotism, and that where it has appeared to be otherwise, the action of the latter has been carried further. Chloroform has the advantage over ether of being less pungent, and more readily inhaled; it occupies less space, and therefore excludes less of the air that the patient should breathe; it does not excite a profuse flow of saliva, as ether sometimes does; but Dr. Snow does not consider its greater rapidity of action altogether as an advantage. He remarks that ether required four or five minutes to produce its full chiralurgical effect; and although it might be desirable to shorten the time to a certain extent, it is not desirable that the time should be less than two minutes—not only that there may be ample opportunity given for the surgeon to observe its effects, but because *chloroform has a cumulative property*.

This cumulative property is of the utmost importance. Dr. Snow has often observed the insensibility *increase for twenty seconds after the inhalation has been left off*. He has marked this by the watch; and his experience induces him to say that he prefers taking six times this period, or two minutes, for producing complete insensibility; whereas, when administered according to Dr. Simpson's plan, its full effect is frequently obtained in a much shorter period, and a "snoring sleep" is very rapidly produced. Dr. Snow regards this snoring sleep as the fourth degree of narcotism, and as but one remove from a *total cessation* of respiration, and he considers it unadvisable to induce this state *with such rapidity*, lest the narcotism should proceed a degree further, *after the inhalation of the vapour*, by virtue of the cumulative effect of the agent. M. Sedillot also stated, in the Academy of Sciences, that with chloroform, the pallor, smallness of pulse, weakness of respiration, and coldness of the skin, sometimes increase after the inhaler has been removed, in an alarming manner.† The same cumulative property has been noticed by Mr. Sibson and others: thus corroborating the observation originally made by Dr. Snow.

In a pamphlet published by Mr. Curling,‡ we find this gentleman still disposed to think that in some cases a preference ought to be given to ether as an anæsthetic agent. "Chloroform," Mr. Curling states, "has a greater tendency to produce involuntary muscular contraction, and exerts also a more direct and a more powerful influence on the heart than ether. In those cases, therefore, in which we desire chiefly to obtain muscular relaxation, and in persons whose powers are much depressed, it may be advisable to employ ether. Ether is, perhaps, better suited also for those cases in which we desire to prolong the insensibility to pain, as its influence is less transient than chloroform, and more readily rendered persistent." A mixture of the two has been employed in Vienna; and this plan has been tried with advantage by Mr. Curling.

On the general utility of anæsthetic substances, it is remarked, in this work, that, besides being useful in diminishing the shock of operations and subsequent reaction, they operate beneficially by rendering the after exhibition of opiates unnecessary; and, further, according to Mr. Curling's experience, "the constitutional symptoms have been milder, and the cases have proceeded more satisfactorily, than after operations in which no means have been taken to prevent pain." He deems a further advantage to accrue from the less need of rapidity in operating; from an opportunity being given of acting with greater deliberation and ex-

* Medical Gazette, Jan. 1848.

† Medical Gazette, March, Feb. 18, 1847.

‡ "On the Advantages of Ether and Chloroform in Operative Surgery," by J. B. Curling, Esq., 1848.

posure; and from the composure of the patient. In children, these several advantages of anæsthetic agents become still more prominent. That insensibility can be brought about, renders amputation of the breast for malignant disease much less objectionable than otherwise.

It is admitted by Mr. Curling, and by most of the writers upon the subject, that in certain states the full effects of these agents cannot be produced without danger; as examples, organic diseases of the heart, especially a dilated or weak heart, and a tendency to congestion in the brain in plethoric individuals, are especially mentioned. On the objection that injurious effects have been produced on the constitution, increasing the fatality of operations generally, Mr. Curling appeals to facts which tell strongly in favour of anæsthetic agents. Of seventy-three cases of amputation of the thigh and leg, where the patients were rendered insensible, fourteen proved fatal, giving a mortality of about nineteen per cent. Of one hundred and thirty-four cases, where no anæsthetic measures were resorted to, fifty-five were fatal, giving a mortality of forty-one per cent., more than double that after their exhibition. Another equally favourable statistical statement is made; and, in concluding, the writer makes one further observation worthy of note, remarking, "There is a condition in which the surgeon would naturally be extremely cautious in giving anæsthetic remedies, until experience had fully proved that they might be safely employed." This condition is shock from an injury.

Where this state is excessive, and sensibility is consequently annihilated, a prudent surgeon would not venture to give chloroform, nor would it be needed. But when patients "have recovered from the first effects of the shock, and though the heart acts feebly, there is sufficient power to admit, if necessary, of operative proceedings, in such cases, anæsthetic remedies usually exert a beneficial effect," acting as stimulants; saving the hurtful effects of a second shock; inducing a healthy reaction; and altogether placing the patient in a more favourable state for recovery than where such means have not been resorted to. Lastly, where operations are needed, in persons reduced by previous illness or exhausting discharges, anæsthetic agents have helped to support the patient during the operation, and have had an exhilarating effect upon the powers of life afterwards. But in such cases, it must be borne in mind, that their effects are readily and quickly developed; and caution must be observed, so as not to produce too powerful an effect.

These views are amply confirmed by Dr. Simpson,* in a "Statistical inquiry into the results of anæsthesia in amputation." According to Dr. Simpson's returns, which have been collected with great industry and care, and collated with the author's well-known talent, the following table exhibits—

THE MORTALITY OF AMPUTATION OF THE THIGH, LEG, AND ARM.

Name of Reporter.	No. of Cases.	No. of Deaths.	Per Centage of Deaths.
Parisian Hospitals—Malgaigne . . .	484	273	57 in 100
Glasgow Hospital—Lawrie . . .	242	97	40 in 100
General Collection—Phillips . . .	1,369	487	35 in 100
British Hospitals—Simpson . . .	618	183	29 in 100
<i>Upon Patients in an Etherized State .</i>	<i>302</i>	<i>71</i>	<i>23 in 100</i>

Thus, in every 100 persons submitted to amputations of the thigh, leg, or arm, the lives of 6 were, by the employment of etherization, saved, above the average number of the same operations in British hospitals;—17 lives in each 100 were saved, if we take the Glasgow returns as a standard of comparison; the average mortality was, under ether, less by 34 in every 100 cases than that which was found by Malgaigne to accompany the same operation in the Parisian hospitals.

Taking a single operation as a standard and medium of comparison, so as to render the result more clear, Dr. Simpson's investigation furnishes the following table:

* Monthly Journal of the Medical Sciences, April 1848.

MORTALITY OF AMPUTATION OF THE THIGH.

Name of Reporter.	No. of Cases.	No. of Deaths.	Per Centage of Deaths.
Parisian Hospitals—Malgaigne . . .	201	126	62 in 100
Edinburgh Hospital—Peacock . . .	43	21	49 in 100
General Collection—Phillips . . .	987	435	44 in 100
Glasgow Hospital—Lawrie . . .	127	46	36 in 100
British Hospitals—Simpson . . .	284	107	38 in 100
<i>Upon Patients in an Etherized State</i> . .	145	37	25 in 100

The figures, Dr. Simpson remarks, speak in a language much more emphatic than any mere words, in favour of anæsthesia, not only as a means of preserving surgical patients from pain, but as a means also of preserving them from death. Between even the lowest mortality in the table without ether, 36 in 100, and the rate of mortality with it, 25 in 100, there is the difference of 11 per cent. That is to say, according to this standard, out of every 100 patients submitted to amputation of the thigh without anæsthesia, 11 more would die from the operation than if the same 100 patients were submitted to the same operation in a state of anæsthesia. And if the condition of anæsthesia effects thus a saving of 11 lives in every 100 amputations of the thigh,—then out of every 1000 such operations the lives of 110 patients would be preserved by the use of antipathic means.

When etherization first began to be employed in surgical operations, it was eagerly argued that its adoption produced a greater tendency to primary and secondary hemorrhage, to imperfect union of the wounds, to pneumonia, &c. From the analysis of the three hundred cases of amputation reported, these various allegations were ascertained by Dr. Simpson to be foundationless and imaginary.

A very interesting article on the effects of chloroform, and other narcotic agents, has also been published by Mr. Sibson, of Nottingham.* Mr. Sibson remarks that the key to the knowledge when the stage of safety, or sopor, is about to emerge into that of danger, or coma, is the action of the pupil, "chloroformization ought not to be continued one instant after the pupils, previously contracted, have begun to dilate." This writer also states that "if complete muscular relaxation be sought for, as in hernia, to facilitate taxis, in dislocation, to make reduction easy, and in tetanus, then it will be needful, in general, to urge the patient from sopor into coma; but as soon as the muscular relaxation is secured, the inhalation should cease.

The principle that it is important to dilute the chloroform vapour largely with air during the first few inhalations, has been generally admitted. Mr. Sibson remarks, "so as to avoid the sudden shock on the nerves of the lungs, and accustom them to its presence."

The following practical caution is given by Mr. Curling: "To be careful to secure the principal vessels divided, since, in some cases, the heart's action is rendered so feeble, that vessels of considerable size scarcely bleed, and so may escape observation, but will burst forth when the influence of the chloroform has passed away."

If, as an effect of chloroform, natural respiration should cease, the appropriate remedy is *artificial respiration*, and the surgeon should at all times be prepared to resort to this without delay; M. Pluvier has performed experiments on animals, proving that, in apparent death from ether or chloroform, life may be restored by artificial respiration. Should the action of the heart cease with the respiration, Mr. Sibson recommends the abstraction of two or three ounces of blood from the jugular vein, to relieve the distension of the heart, and permit the renewal of its action.†

- The case of Mary Greener, which proved fatal, and became a subject of medico-legal investigation, was simply this:—She was suffering from onychia; Mr. Meggison seated her in a chair, and put about a teaspoonful of chloroform into a table-

* Medical Gazette, Feb. 18, 1849, p. 267.

† Liber citatus, p. 271.

cloth, and held it to her nose; after respiring twice she pulled his hand down; he told her to draw her breath naturally, which she did, and in about half a minute the muscles of the arm became rigid, and her breathing a little quickened, but not stertorous; the pulse was natural until the muscles became rigid; it then appeared somewhat weaker, but not altered in frequency; the toe-nail was then removed; when the semicircular incision was made, she gave a jerk; her eyes were then closed, Mr. Meggison opened them, and found them congested, they remained open; her mouth was open, and her lips and face blanched; water dashed in her face produced no effect; she swallowed a little brandy with difficulty; she was laid upon the floor, and an attempt made to bleed her, but she was dead; the time not being more than three minutes from the first inhalation of the chloroform till her death.*

In a subsequent communication, Mr. Meggison states that, after the cloth was removed from her face, the respiration was at first somewhat quicker and stronger, then became very rapid, and ended in a prolonged forced expiration or splutter, the remaining expirations and inspirations being exceedingly feeble and few. Dr. Snow remarks, that it is evident from this that the fatal event arose from the cumulative effect, after the inhalation was discontinued.†

Besides ether and chloroform, other anæsthetic agents have been proposed: Dr. Simpson made trial of several chemical substances, and in particular of *aldehyde*. M. Poggiale, Professor of Chemistry at the Val de Grâce, seems to have been the first to announce that the inhalation of the vapour of aldehyde is speedily followed by the most complete insensibility.‡ Its effects are even more rapid and more powerful than those of chloroform, but it is a more irritating substance, and has a more powerful odour, qualities which are likely to prevent its becoming a substitute for chloroform. M. Poggiale's experiments were made only on animals. Dr. Simpson has tried the respiration of this substance, and also of chloride of hydro-carbon, nitrate of ethyle, benzoin, and bisulphuret of carbon, but not one of these proved comparable with chloroform or sulphuric ether; they were less manageable, and their after consequences too severe and too frequent to admit of their introduction into practice.§

2. On the subject of *Operative Surgery* generally—passing from the great discovery of the day—a memoir has been read by Dr. Vidal (de Casis) to the Academy of Medicine (Jan. 25), on the *performance of operations at intervals (en plusieurs temps)*.|| Dr. Vidal states that, in his opinion, operative surgery yields too frequently to the ancient rule of "unity of time," and does not sufficiently obey the laws of Nature. He combats the precept of unity of time, and defends the advantages of a contrary principle, that of operations performed at intervals.

He gives this denomination to operations which the surgeon accomplishes in several successive actions, separated by more or less considerable periods of time. No doubt, nothing can be more brilliant than the removal in a few minutes of a disease which for years had threatened life; but it also sometimes happens that the sudden, and, as it were, instantaneous removal of an ancient malady, to which the system had become almost accustomed, causes a deep disturbance and depression of the constitution, and prevents the possibility of a salutary reaction after the accomplishment of the operation. Besides, in a properly regulated method, there are circumstances which can be brought about only by the intervention of Nature. For instance, when a foreign body, engaged deeply in our structures, is eliminated without the interference of art, Nature causes successive divisions and cicatrizations, by which the foreign body is gradually brought to the skin. Thus, in abscess of the liver, whilst ulceration destroys the walls of the purulent sac, adhesions form between the visceral and parietal layers of the peritoneum, which prevent effusion of pus into its cavity; this synthesis, which cannot be executed by the surgeon, must perforce be confided to Nature, in order to avert a fatal accident. . . . The intervention of Nature is not necessary only in the operations rendered indispensable by disorders which threaten

* Edin. Med. and Surg. Journal, April 1848, p. 496.

† London Med. Gaz., March 17, 1848.

‡ Dublin Medical Press, April 12, 1848.

§ Monthly Journal, April 1848, p. 740. (1) See Report on Materia Medica, p. 239.

|| Translated for the Medical Times by D. M'Carthy, D.M.P.

life. Autoplastic surgery must also have recourse to its resources: the region which requires reparation must be prepared, the substance or portion of skin to be displaced must be brought gradually by slow journeys, as it were, from its present seat to its future destination; in a word, some autoplastic operations of a dangerous nature may cease to be so if these principles be attended to.

Dr. Vidal illustrates his principle by the following instances:—

a. *Extraction of articular concretions.*—M. Goyraud admitted the principle when, for the purpose of extracting a loose cartilage from a joint, he did not complete his operation until he could rationally suppose the articular wound to have healed. The following was the operative process adopted:—The first part of the operation was accomplished according to the rules of subcutaneous operations, the skin being divided at some distance from the spot of the articular capsule which was to be opened, leaving an oblique passage between the wound of the skin and the capsular action. The loose cartilage was then forced out of the articular cavity through the opening of the capsule into the cellular tissue, and fixed there until the wounds were completely healed: thus the cartilage had become an extra-articular foreign body, the definitive removal of which was obtained by a simple operation unattended with peril. A small incision permitted its escape, and in five days the patient was completely restored. It was physically impossible for air to penetrate into the joint: during the first period, the foreign body opposed its passage; and in the second operation, the capsule was completely healed.

b. *Bronchotomy.*—In order to prevent hemorrhage into the trachea, M. Récamier recommends to divide all the tissues from the skin to the trachea, and to open that tube only twenty-four hours after. When it is recollected that tracheotomy is almost invariably an operation performed in urgent cases, time being of the utmost value, the principle cannot be applied in this instance.

c. *Incision of abscesses and cysts.*—Callisen had already conceived the idea of opening deep-seated abscesses in several successive operations, and M. Bégin established this notion as a precept. By the first operation, the surgeon should approach as near as possible to the purulent collection, and sometimes the remainder of the operation may be abandoned to Nature, who performs her part by an ulcerous process, hastened by the phlogosis which the first operation has induced. This method has been chiefly applied to the surgical treatment of hepatic abscess, and it is well known that M. Récamier opens certain cysts of the liver only after the application of caustic. The object of the first operation is to cause adhesions between the visceral and parietal layers of the peritoneum, in order that the abdominal wall may, as it were, become the wall of the abscess, and that effusion of pus into the serous cavity may be almost impossible. The second part of the operation is sometimes abandoned to Nature, who attains her end by ulcerations. Graves is of opinion that the surgical action should be always limited to the first operation. M. Bégin is of a contrary opinion; for the second operation the knife should be always preferred; for the first, opinions are divided.—M. Récamier uses caustic, M. Bégin recommends the knife. The property of producing adhesions is attributed by the former to the caustic, and is the reason of his preference; but the inflammation produced by incision may certainly have the same result. Besides, the cause of the partiality for caustics is the consequence of two exaggerated fears—that of the patient, who, above all, dreads the incision; that of the surgeon, who exaggerates the difficulties of the operation. The caustic cannot be used with the same precision as the knife; and the time necessary for the elimination of the slough is gained if incision be preferred. Some operations seem, also, to exclude the application of caustic. Thus, in order to carry into execution the idea of M. Bégin and others, who, to create an artificial anus, according to Littré's method, recommend first that adhesions be established between the intestine and the abdominal wall, it is evident that it will be far preferable to divide in the first instance the abdominal walls, to acting blindly with a caustic, the action of which it is quite impossible to direct or to limit.

d. *Lithotomy.*—The idea of practising lithotomy in several successive operations is ancient. Franco looked upon this method as the best for the extraction of calculi. It was also mentioned by Covillard, Deschamps, Camperzoin, and Saucercotte. But the elder surgeons were in the habit of opening the bladder on the very first day, and removing the concretions at a later period; whereas, Dr. Vidal

recommends that the first operation do not extend to the bladder, which will be incised only when secondary inflammation has caused a sort of organic cement to be secreted around those parts which will, after operation, be in contact with urine. Infiltration, one of the great causes of the mortality in lithotomy, is thus prevented. M. Nélaton, M. Monod, and Professor Gerdy, have already performed lithotomy according to these principles, but the cases, in which many serious complications existed, sufficiently serious to prevent the idea of lithotomy or even of the usual operations for lithotomy being entertained, were not fortunate in their issue.

c. *Autoplastic operations*.—In these, Groefe and Professor Roux have found great advantage in employing the method *en plusieurs temps*. In ruptures of the perineum it will be found useful; and finally, by its adoption, operative surgery will attain the following results:—1. The great disturbances of the system will be avoided. 2. The modes of execution varied, and the resources of nature called into action. 3. Certain plastic operations, more perfect and less dangerous, will become possible; and 4, this question will be solved—Is it better to undergo several simple and short operations, unattended with peril, than submit to uncomplicated, long, and dangerous operations?

The works which have come to hand since our last Volume was published, contain many other articles having important bearings upon the general principles of surgical science and practice. Among the subjects of discussion, we find the following:

3. *On the Employment of Heat and Cold in Therapeutics, and the Application of Fluid Pressure*.—Indefatigable efforts are made by Dr. James Arnott to call the attention of the profession to this subject. He dwells emphatically upon what he believes to be the fact, that poultices and fomentations, cold lotions, bladders of ice, and similar applications, frequently produce effects the very opposite of those intended by the surgeon or physician, and as frequently do mischief rather than good. It is essential, Dr. Arnott remarks, for the effectual application of heat or cold in inflammatory or irritative diseases, that the appropriate temperature should be uniformly preserved, and his experience leads him to affirm that no judgment can be arrived at of the beneficial effects of definite degrees of heat or cold in various diseases, from the ordinary clumsy and ineffectual methods of their application. Dr. Arnott has invented a waterproof cushion or bladder, through which, by a most simple contrivance, a current of water may be made to flow of any temperature that may be required. The contrivance also admits of the addition of pressure—fluid pressure—to the regulated temperature. Its object is thus to apply cold continuously and uniformly in affections of the head or eyes, or after surgical operations, for instance; to employ, in the same way, heat, in inflammatory and spasmodic affections of the chest or abdomen; or to apply the equal and uniform pressure of water of any given temperature in eczema, for instance, and other cutaneous affections; or in the treatment of burns, wounds, certain ulcers, &c. Heat, Dr. Arnott observes further, communicated by poultices and fomentations, is too transitory and interrupted to be of much avail; and again, a series of reactions is frequently produced by the usual intermitting applications of cold, leading to excitement as the result; instead of depression.

Pressure on an irregular surface, by a bandage, will at best be confined to the projecting parts; the bandage, soon becoming distended by the motions of the patient, will cease acting on certain parts and be concentrated on others, causing either irritation or congestion. Dr. Arnott confidently hopes that his improved method of application will render fluid-pressure as a curative agent less dangerous, and more than doubly effectual, and that its use may be extended with advantage to diseases in which it has not hitherto been employed, in illustration of which, it is stated, that, by supporting the inflamed and distended vessels, and at the same time regulating the temperature, harassing diseases of the skin, which had resisted all the usual remedies, have met with a speedy cure. Dr. Arnott's views have been most favourably commented upon by several of the medical journals.*

4. *On the Employment of the Power of Elasticity in Surgery*.—Mr. Clark, surgeon to the Bristol Infirmary, has communicated a memoir on this subject. Without

* *London Med. Gaz.*, Jan. 8, 1846; *Lancet*, Dec. 4, 1847; *Proy. Journal*, Mar. 8, 1848.

denying that the rack and screw are powerful and necessary instruments, or aiming to discard their use, he states his belief, that there are numerous instances in which they are resorted to where the elastic principle would be more appropriate. Caoutchouc has been employed in surgery as a compressor. Mr. Clark suggests its use as a tractor, and estimates its power at a much higher rate than has hitherto been done. Its beneficial effects have been observed in—1, lateral curvature of the spine; 2, bending rigid joints, and straightening them when contracted; 3, the removal of long portions of dead bone from the soft parts, and withdrawing a sequestrum from its osseous shell; 4, the removal of ligatures, when they have been detained beyond the accustomed period; 5, opposing the tendency of cicatrices to contract after burns.*

In the arrest of bleeding from leech bites, and even from arteries of tolerable size, such as the superficialis volæ, and the superficial palmar arch, Mr. Vincent also advocates a resort to the principle of elasticity—the elasticity of the integuments. In the first place, he winds a very small piece of lint into a hard knot, so as to be less than a pea, and wiping the orifice quite clean of blood, and placing this little pad upon the bleeding point, then taking advantage of the elasticity of the integument, he draws a strip of adhesive plaster tightly over it. This has been quite enough to stop it perfectly, and on the third day there is an end of the wound. The point to be observed particularly in this application is, that the strip of plaster may be long enough to ensure a steady pressure of the pad by drawing up the integuments from a distance, by which the elastic quality of this structure gives a permanent pressure; but even this pressure should be confined as much as possible to the bleeding orifice.

The practice he adopts is to use a hard boss of lint, larger than that for leech-bites, but yet not more so than to cover fully the bleeding artery, to clear all coagulum away, and then press this boss upon the artery. As we are to get the elastic power of the integuments to keep up unremitted pressure, it will be necessary that this boss should have other pads placed over it when it lies below the level of the surrounding parts, in order that the pressure may take effect. But in this instance, there is no other application to be made, except upon this very spot over the artery; the rest of the wound ought not to be closed in, and no other covering except a piece of lint laid loosely on it; the lips of the wound are not to be brought together, nor is the pressure of bandages to be used. When suppuration has fairly taken place, no further bleeding will ensue, and the pressure may be taken off. Security has so certainly followed this plan of treatment, that he has the fullest confidence in it. Allowing the object to be fully obtained, it is a striking advantage over other methods that are usually had recourse to. All surgeons must have had the opportunity of seeing the difficulty and tediousness of securing the cut ends of the superficial palmar arch, and we know of the extraordinary propositions that have been followed out of tying both the radial and ulnar artery, for the purpose of stopping bleeding from the arch.

5. M. Trinquier, professor of medicine at Montpellier, in a letter "*On muscular Exercise considered as a Therapeutic Agent*," reminds his readers of the various causes of muscular contractions, and of the propriety of investigating these, with the view of determining whether any contraindication exists, or whether other curative measures may not be resorted to successfully, before operations are determined upon. Several examples of successful treatment are quoted from a pamphlet published by an English surgeon, Mr. W. T. Ward, in 1822. An individual having a contracted knee, from rheumatism of several years' standing, was made to walk on an inclined plane, and completely recovered the use of his limb in about seven months. In another more aggravated case, commencing with percussion, and proceeding gradually to the use of the inclined plane, in a few months the limb became straight, and the patient recovered its use. A false ankylosis in a gouty toe was cured in three months by frequently supporting the weight of the body on the toe. In another most aggravated case of contraction of almost all the joints in the body, in the person of an Indian officer, the same principle, with oils, frictions, and the use of weights and pulleys, employed diligently for nine months, resulted in a very great improvement of the patient's condition.

* *Prov. Med. and Surg. Journal*, Oct. 6, 1847.

† *Ibid. cit.* p. 215.

An antero-posterior curvature of the spine was completely restored, the patient at the same time recovering his health. M. Trinquier gives a case, in his own practice, of wry-neck cured in a similar manner, without resorting to a section of the sterno-mastoid muscle. The conclusion to be arrived at is, that muscles which have been contracted for many years may be restored to their normal length by special exercises continued for a long period; and that the exercise of the muscles, at the same time that it produces extension of the flexors, gives tone to their antagonists, so that by the time the position of the limb is restored, its volume and force are found to be sufficient for the accomplishment of its functions.* Mr. Vincent has also some original remarks on the surgical relations of associated muscular motion.†

6. *Galvanism as a Therapeutic Agent in Surgical Diseases* is still under the investigation of numerous scientific individuals in various countries. It has been well remarked, that it fell into disuse, in consequence of the deceptions and exaggerated statements of charlatans and enthusiasts shortly after its discovery, and that some other causes have been in operation to prevent the profession giving it a patient and sufficient trial—as the tediousness and presumed difficulty of its application; but the belief is most reasonable that an agent, which may be made to traverse directly, and almost at the will of the operator, the different parts of the nervous system, the action of which is instantaneous, and may be graduated and withdrawn according to the requirements of the practitioner, must exercise a powerful influence over the functions of the body, and admit of the most useful application in affections of the nervous system, of the blood, and of the various structures and organs of the body.

Numerous cases have been recorded in which galvano-puncture and the application of electricity in its various forms have been unsuccessfully applied, even in diseases in which its use is frequently indicated, which clearly shows that it is not a remedy to be employed with success indiscriminatively, or empirically, and the proper train of scientific investigation at the present moment appears to be, to ascertain and define the cases in which it is capable of efficient application as well as its proper mode of application. In our late volume‡ we have recorded much of the information which has been obtained on these points, and in the works which have subsequently come to hand, we observe its application extended to other cases; in the Extracts of the present Volume the reader will find a case of ununited fracture treated successfully by galvanism (page 104), and “a case of subclavian aneurism cured by galvano-puncture” (page 107). We have now before us instances of the successful employment of this agent in aneurisms, varices, diseases of the bones and bladder, in cases of paralysis—as for instance, “paralysis of the right side of the face—which had resisted all other remedies,”§ in rheumatism—as “in a case of severe and obstinate sciatica of several months’ standing, cured in fourteen days;”|| also, amongst others of a similar nature, “a cure of obstinate chronic rheumatism, by Mr. Christopher;”¶ and again, the utility of galvanism in a case of poisoning by opium, has been recently recorded,** &c., &c. As respects rheumatic, neuralgic, and paralytic cases, many instances have been detailed in which it has failed, so that, as remarked by one of our continental contemporaries, although at present it is impossible to discriminate those cases which will give way to its effects from those which will not, when such affections resist the ordinary treatment, the application of galvanism is indicated.

7. The semi-annual period of our present Report embraces a new proposal for the advancement of medical and surgical knowledge, viz., that the members of the Provincial and Surgical Association should furnish to the profession through the medium of the “Medical and Surgical Journal,” the results of their experience on specified subjects, individuals being appointed by the Association to collect all the communications of the members on each subject, and to make reports thereon. The object is to render this Association and its valuable journal available for the

* *Revue Médico-Chirurgicale*, Feb. 1848; and *Practical Observations on Distortion of the Spine*, &c., by W. T. Ward; London, 1822.

† *Lib. cit.*, p. 1-13.

‡ *Half-Yearly Abstract*, vols. III., IV., V., VI.

§ *Revue Med.-Chir. de Paris*, Dec. 1847, p. 327.

|| *Idem*, p. 328, from the *Gaz. Med. de Strasbourg*.

¶ *Lancet*, Feb. 5, 1848, p. 152.

** *Prov. Medical and Surg. Journal*, Nov. 3, 1847.

purpose of collecting information—to accumulate the observations and experience of members, and ultimately to reduce them to principles. The details of the plan are contained in a letter by Mr. Crompton, of Manchester, who is authorised by the Association to test its utility in an investigation of the "*Treatment of Burns and Scalds*." Mr. Hunt, of Herne Bay, also has proposed a plan of his own for investigating the "*Medicinal Action and Effects of Arsenic*," which the Association has authorised him to work out. It is scarcely necessary to remark, that these proposals, and the manner in which they have been met by the Association, are deserving of the highest commendation. The best method of carrying the object out may not at present be clearly ascertained, but the results must be highly interesting, and conducive to the interests of medical and surgical science.

§ I.—*Injuries and Diseases of the Arteries and Veins.*

8. *Deligation of the Carotid Arteries and of the Arteria Innominate.*—In our last Volume we referred to a paper by Dr. Norris upon this subject (p. 204), which we then were prevented reporting upon for want of space; and it is to be regretted that, for the same reason, we can furnish but an imperfect abstract upon the present occasion.* Dr. Norris gives six series of tables, being the statistics of the mortality, accidents, &c., following these operations. And he states that close examination of the cases recorded shows that the operation of tying the carotid has been too generally looked upon as one of but comparatively little danger. Serious symptoms frequently follow the mere cutting off of the supply of blood to the brain, and fatal accidents are common results. Series i consists of 38 cases, in which the carotid has been tied for aneurisms. Series ii, 30 cases for wounds, &c. Series iii, 18 cases in extirpating tumours. Series iv, 6 cases in cerebral affections. Series v, 42 cases in erectile tumours, tumours of the diploe, jaw, maxillary sinus, and neck. Series vi, 15 cases of Bransford's operation—in all, 149 cases.

a. *Aneurisms.*—22 recovered, and 16 died; 27 were males, and 11 females. Of 33 cases noted, 22 were on the right, and 11 on the left side. Of 34 cases noted, 4 were under 20 years old; 7, between 20 and 30; 8, between 30 and 40; 5, between 40 and 50; 3, between 50 and 60; 3, between 60 and 70. 33 were done for the cure of aneurisms; 1 for varicose aneurism; and 4 for tumours, afterwards discovered not to be aneurisms. In 13 cases the ligature came away before the 26th day; in 7, between the 20th and 30th; and in 1, on the 33d. In 9 cases, pulsation was noticed after the operation. Some of these cases are highly interesting. All the cases in which hemorrhage occurred after the operation, except 2, proved fatal. In 6 cases, the tumours suppurred; and either burst spontaneously, or were laid open; 4 died, and 2 were cured. Of the 16 fatal cases, 2 died from inflammation of the sac; 1, from inflammation of the brain; 5, from hemorrhage coming on from the 4th to the 70th days; 1, from spasm of the glottis; 2, from apoplexy and congestion of brain; 1, from exhaustion, and 4 were not noted. In 7 of the 38 cases, mistakes in diagnosis occurred: 1 tumour was a fungous hæmatodes; 1, a carcinoma; 1, tumour surrounding, but in no way connected with, the artery; 1, a glandular swelling; in 1, an aneurism was mistaken for an abscess; in another, also, the tumour was believed to have been originally a serofulous abscess; and in 1, the aneurism followed a wound, and was seated in the vertebral artery. In 12 cases, serious symptoms were manifested in the brain after the operation.

The latter result of tying the carotids has been several times referred to in former Volumes of the "*Abstract*," and is deserving of particular attention.† In the first case in which the operation was ever done for the cure of aneurism, paralysis of the arm and leg came on on the eighth day. Four days afterwards, the palsy of the arm had almost disappeared, and no further report concerning it is made. In another case, No. 4 of the series, there was great drowsiness on the third day, and on the following day the right side was much more feeble than the left. After some days these symptoms gradually disappeared. In No. 18 of the series, the patient became slightly

* *American Journal of the Medical Sciences*, July 1847.

† *Ibid.* p. 27.

convulsed on the right side one hour and a half after the operation, and sank into a state of stupor. Two days afterwards, his left side became paralysed. In No. 16, it is stated that "a few hours after the operation, symptoms of inflammation of the brain arose," but were subdued by the antiphlogistic treatment. In No. 37, apoplexy occurred on the morning of the day following the operation; from which the patient partially recovered, and lingered on for nine days after it. In No. 35, slight cerebral disturbance arose the day after the ligature; and on the fourth day there was paralysis of one side. In No. 17, dimness of vision, and a sense of coldness over the right side of the face, came on immediately after the operation, which gradually disappeared in a few hours, though for some days headache, difficulty of deglutition, and heaviness in the right side were complained of. In No. 20, the patient lost the use of the eye, and was affected with hardness of hearing. In No. 25, there were slight convulsions on the second day after the operation. In No. 9, giddiness, with numbness, and trembling of one arm, came on two hours after the operation; the numbness disappeared the day after. In No. 34, hemiplegia followed, which, it is stated, may have occurred at the moment of tying the ligature, but was not remarked until an hour or more after the operation, and the patient continued faint and hemiplegic till her death, on the fifth day. In No. 26, coma supervened on the night after the operation, and the patient soon after died. Of these twelve cases, seven died.

These cerebral symptoms were noticed at various intervals after the tying of the artery, and in all of them are attributable either to cutting off the direct supply of blood to the brain, or to disease consequent upon the altered condition of the circulation in that organ. It is impossible to determine what particular state of the vessels of the brain predisposes it to become diseased after obliteration of the carotid. The researches of Mr. Chevers lead him to think that in most instances the fatal mischief is consequent upon deficient arterial supply; but that in some cases it may arise from increased pressure of blood upon the arteries of the affected hemisphere, in consequence of the supply to the carotid being diverted through the vessels of the circle of Willis.

b. Wounds.—Of the 30 cases contained in this series, 15 were cured and 15 died. The ligature separated in 1 before the tenth day; in 9, between the tenth and twentieth days; in 3, between the twentieth and thirtieth days. Hemorrhage followed in 6 cases, of which 3 died; in 8 cases, derangement of the cerebral functions occurred, and 2 only of the 8 recovered. The cerebral effects included temporary and permanent disturbance of vision, loss of motion, followed by coma and death; headache and delirium, followed by stupor and death; complete insensibility, followed by recovery; hemiplegia, delirium, with convulsions on one side, and hemiplegia on the other side, &c. &c.

The following most instructive instance of a mistake, in regard to tying the artery, which occurred at the New York Hospital in 1840, is given:—The case was one of violent hemorrhage, arising from ulcerations towards the middle of the neck, in which it was determined to apply a ligature to the common carotid. An incision was made in the ordinary manner, on the inner side of the sternomastoid muscle; and in the usual situation of the sheath of the vessels, a large mass of fibrine was found, adhering to all the tissues in that region, and confounding them in such a manner that it was difficult to distinguish one from another. After careful dissection, what appeared to be the sheath of the vessel was exposed and divided. A cylindrical body, of the size and colour of the artery, was then brought into view, and a ligature passed under it. Several of the surgeons present, as well as the operator, felt the vessel under which the ligature was placed, and felt convinced that it was the carotid artery, although no distinct pulsation could be felt in it. This was attributed to the extreme prostration to which the patient was reduced. The ligature was then tied, without any effect in arresting the flow of blood. From this it seemed evident that the subclavian, or one of its branches, was wounded; but the patient was so prostrate, that it was not deemed safe to attempt any further operation. Firm pressure with the hand was, therefore, continued. Death occurred early on the following day. Upon post-mortem examination, the ligature was found to embrace only a band of organized lymph, situated immediately anterior to the sheath of the vessels, which were in a perfectly healthy condition. The hemorrhage was found to proceed from the inferior thyroid,

which was destroyed by ulceration in one half of its circumference for the space of an inch.*

c. Extirpation of Tumours.—Of the 18 cases, 6 died, and 1 is stated to have been "recovering on the eighth day." In several, the most severe cerebral symptoms supervened. The ligaturing of the carotid, previous to the extirpation of tumours, unless there is reason to suppose that the tumour involves the artery itself, would seem to be an unnecessary step, inasmuch as pressure alone, if confided to a careful assistant, will as effectually guard against the danger from hemorrhage. It must be borne in mind that this preliminary measure is, in itself, a *dangerous* operation; and, as has been justly remarked by Mr. Chevers, it would be far better for the surgeon to make up his mind to contend with an active hemorrhage, than that he should submit his patient to the chance of fatal hemiplegia. The idea seems still to be entertained by some, that after such a step, the subsequent dissection of the tumour is nearly bloodless. The opinion is an erroneous one; the anastomosis being so free in the enlarged state of vessels which usually exist in these cases, as at times to pour out blood profusely. The difficulties and immediate danger of exposing the carotid vessel, too, in cases of large tumours, are not to be set down lightly.

Dr. Norris concludes, "as a preliminary step to these operations, the general experience of surgeons of the present day is decidedly against the proceeding."

d. Cerebral Affections.—The operation has been performed for the cure of epilepsy, paralysis and neuralgia; but the results, as given in detail by Dr. Norris, are very unfavourable. In several of the cases, both carotids were tied at intervals, without any benefit accruing; epileptic fits sometimes occurred the day after the operation; only momentary benefit was derived from it in a case of neuralgia, and in those cases in which it appeared to be advantageous. As remarked by Dr. Norris, quite as much, if not more benefit is daily seen to follow any well-directed treatment, and this without resort to means which endanger life. Indeed, as much benefit is likely to result from hygienic treatment alone.

e. Erectile Tumours, &c.—Of the 42 cases, 31 were for the cure of erectile tumours, or arterial varices, in the head or face; of which 18 were cured, 8 died, and 5 recovered without being cured. In the 11 cases in which the artery was tied, to cure or arrest the growth of other tumours, 5 died, 4 recovered of the operation, but were not cured, 1 is stated to have been cured, and 1 required to be extirpated with the knife and caustic afterwards. So that the method has frequently succeeded in the cure of purely erectile tumours; but for non-erectile growths in this region, the facts show that, when alone depended upon, it has proved altogether ineffectual, and cannot be countenanced by sound surgery. Of the whole 42 cases, 20 were cured, 13 died, and 9 recovered, but were not cured; in 10 cases of erectile tumours, more or less pulsation returned; in 6 cases, hemorrhage occurred, 4 of which died. Of the 13 cases of death, 1 was from ulceration of the tumour, 4 from hemorrhage, 1 from convulsions, 1 from inflammation of the brain, 1 from phlebitis of the internal jugular, 1 from lock jaw, 1 from inflammation of the chest, 2 from long-continued disease, and 1 from apoplexy. In 8 cases, very serious symptoms of affections of the brain were manifested.

f. Breador's Operation.—Of the 15 cases in which this was resorted to, 9 were done for aneurisms, or cases supposed to be such, of the innominate; of which 5 recovered, and 4 died; in 2, derangement of the cerebral functions followed the ligature. Dr. Norris dwells upon the difficulties of diagnosis in these cases, and gives instances from the practice of celebrated surgeons of mistakes having occurred.

g. Ligature of both Carotids.—Dr. Norris recites 10 instances in which a ligature has been applied to both carotids, for various diseases. This double operation was occasionally successful in curing the disease. Sometimes it failed in doing so, but the patients recovered; and it was in several instances followed by the usual cerebral effects. Two of these cases have been recorded in the "Half-Yearly Abstract," Vol. III., p. 112, and Vol. IV., p. 99.

h. Ligature of the Arteria Innominate.—Nine instances are given, which uni-

* New York Medical Gazette, Feb. 2.

formly terminated in death; the fatal results occurring at variable intervals after the operation, generally from hemorrhage. In two cases, the carotid and subclavian have been tied immediately as they arise from the innominata, but were fatal. Three cases are recorded, in which attempts to secure the innominata have been actually made, and finally abandoned. Velpeau has formally proscribed the operation.

9. Among the more recent communications on the subject of aneurismal surgery, we find a case of *inguinal aneurism*, narrated by Mr. W. Lyon, of the Royal Infirmary, Glasgow, who tied the common iliac. The patient died fifty-four hours after the operation, apparently from shock. Also, a case of *aneurism of the arteria innominata*, which Mr. Lyon treated by compression on Brasdor's principle, with rest, bleeding, regulated diet, &c. The treatment appeared to be beneficial, life being prolonged for twenty months after the disease had made great progress; but the patient died suddenly and unexpectedly from copious hemorrhage into the right pleural cavity, a large rent having occurred in the aneurismal sac.* Professor Syme relates a case of cystic tumour of the neck, which presented all the symptoms, and was mistaken for an aneurism; for which he put a *ligature on the carotid*. The patient died of secondary hemorrhage after a few days, and the true nature of the disease was revealed.† A case also of

10. *Ligature of the Common Carotid for Removal of the Parotid Gland*, by A. B. SHIPMAN, M. D., Professor of Surgery in Indiana Medical College, is communicated by Dr. Norris.—Mrs. —, æt. 70, of spare habit, but good general health, had a tumour at the angle of the jaw, of four years' standing, about the size of an orange, very hard, with lancinating pains through it. Previous to extirpation it was decided to tie the carotid, which was done by Dr. Shipman and Dr. Norman. At the commencement considerable hemorrhage attended, but the operation was finished, and the patient recovered; the wound healed, and the ligature came away on the twenty-eighth day. The patient was well one year from the operation, but the tumour returned again in the course of two years, and she finally sunk under it; but she recovered perfectly from the operation of tying the carotid. This was in May, 1844, and had never been reported before.‡

11. *Treatment of Teleangiectasy*.—Dr. Behrend, of Berlin, recommends, as superior to all other methods, canterization with concentrated acetic acid, followed by the application of compresses soaked in vinegar. The erectile tumour is said to contract and to become hardened, pale yellow, and atrophied; an obliterating inflammation is produced which occasions coagulation of the blood in the vessels, with a thickening of the diseased part, so as to convert it into a tissue resembling parchment; a kind of eschar, which falls off, leaving the subjacent part quite dry. He recommends the subcutaneous division of the dilated vessels with a double-edged needle.§

Chelius and South give a full account of the various methods adopted for the cure of this affection; the former has a high opinion of caustic potash, where the swelling is broad and superficial; the latter has always removed the disease either with a ligature or knife;|| the use of acetic acid is not mentioned by these authors.

§ II.—Injuries and Diseases of the Head and Neck.

12. *Extirpation of the Lachrymal Gland*.—M. Paul Bernard performed this operation, and M. Textor, of Würzburg, has followed his example in a case of very intense epiphora. The case is fully described by M. Textor, junior, who observes that the operation is not more difficult in the living than in the dead body. Those who believe that the secretion of tears is effected by other organs besides the lachrymal gland, will doubt the utility of this measure; but in the case in question, although the eye continued moist, it was completely successful.¶

13. *Excision of the Tonsils*,—a novel, simple, and efficacious mode of arresting

* The Monthly Journal of Medical Science, Oct., 1847.

† Prov. Med. and Surg. Journal, March 8, 1848.

‡ The Medical Examiner, Sept., 1847, p. 559.

§ Journal für Kinderkrankheiten, and Encycl. Nouv., Nov., 1847.

|| System of Surgery, vol. ii. p. 279.

¶ Journal für Chirurgie und Augenheilkunde.

hemorrhage from.—M. Felix Hatin describes a case of hypertrophied tonsil, both of which he excised with the *guillotine* at one sitting. The hemorrhage was at first moderate, and subsided on the use of an acidulated gargle. Two hours afterwards he was summoned to the patient, who had vomited a large quantity of blood, and was believed to be dying; he found the floor inundated with blood, the patient pale and sinking. On examining the throat, the blood was found to flow from the wound produced by the excision of the left tonsil; a saturated solution of alum, alum-powder, and the free application of the nitrate of silver failed to arrest it; repeated vomiting of blood and faintings returned. Mr. Hatin feared the blood would find its way into the trachea, and he was about to apply the actual cautery, when a thought struck him, that having, in his surgical case, a pair of very long, straight forceps, intended to carry a ligature to a polypus at the posterior part of the nares, he might be able to compress the tonsil with these forceps and to arrest the hemorrhage. The extremity or one branch of the forceps was accordingly armed with pieces of agaric and linen, moistened with solution of alum, and the extremity of the other branch with pledgets of linen; the former was introduced into the mouth, and applied immediately on the bleeding surface, the latter passed naturally on the outside of the corresponding jaw, its extremity finding a point of support in the angle of the lower maxilla. For the purpose of compressing the tonsil it was only necessary to bring the branches of the forceps towards each other and tie them, which plan proved completely successful; the bleeding ceased immediately. On the following day there was slight tumefaction of the jaw, a little pain in the throat, and some fever. On the third day the forceps were loosened without using any force to separate the one which was incrustated on the tonsil; and on the fourth day this fell off of itself without any return of the hemorrhage.*

14. *Edema of the Glottis.*—Dr. W. Jameson is the author of an important paper entitled "Observations in Edema of the Glottis, occasioned by the attempt to swallow boiling-water, illustrated by thirteen cases."† In all these cases danger is imminent, although for a few hours the patient appears to suffer comparatively very little. Tracheotomy is imperatively called for when emetics, leeches, the application of heat, &c., fail in allaying the urgent symptoms. When the breathing becomes stridulous and croupy, or amounts to a mere pant, from the spasm of the glottis, the pulse being quick and small, the temperature of the body diminished, the head drawn back, the face congested, eyes half open, with inclination to coma and difficult deglutition—from the first accession of these symptoms—the operation is called for; but when they have lasted a sufficient length of time to cause complete coma, or if bronchitis or laryngitis has set in, then the operation will be useless. Dr. Jameson remarks very truly, that patients sometimes get well without any operation, and practitioners should bear this in mind so as to be guarded in their prognosis. We have heard it urged, in order to induce the friends to consent, that without an operation recovery would be impossible, they pertinaciously refusing on the ground that they had rather the patient died than that the throat should be opened—and after all the patient has recovered. When the surgeon proceeds to perform the operation, he should be provided with the following instruments: an ordinary scalpel, scissors, forceps and retractor, a trachea-pipe, a gum-elastic catheter, and a small double hook, the latter being a more convenient instrument for laying hold of the trachea than a single one or any other contrivance. The circumstances to be attended to in its performance are—

1st. The cutaneous incision to be in the median line, otherwise the opening into the trachea will be valvular.

2d. Great caution in avoiding the thyroid veins, which, as well as the middle thyroid artery, constantly encroach on the median line.

3d. Great caution that the incision be not carried too low in the neck, thereby opening the fascia that is attached to the sternum, which helps to close the upper opening of the thorax, whereby there is not only danger of wounding the vena innominata, but also great annoyance may be experienced by the elevation and depression of the thymus gland.

* Rev. Méd. Chir. de Paris, Dec., 1847, p. 335. † Dublin Quart. Journ., Feb., 1848, p. 69.

4th. Never to open the trachea till we are certain that we have laid open the deep fascia that covers it, or we shall surely have a valvular opening.

5th. The operator should be prepared, in case of the supervention of spasm, when the trachea is seized by the hook, to cut the piece out rapidly; or should the patient not breathe instantly after this has been done, the surgeon must lose no time in passing a gum-elastic catheter into the trachea and inflating the lungs.

6th. Never enlarge the wound in the soft parts after the trachea has been opened lest a flow of blood should pass into it, and cause instant death.

7th. Blood may pass into the trachea the instant the opening is made, thereby producing violent cough, or even asphyxiating the patient. In either case the elastic catheter must be had recourse to, and life may be saved.

8th. Should a lymphatic gland present itself along the course of the incision, and tend to obstruct the passage of air into the trachea, it may be removed.

Immediately after the operation, as the patient is generally in a more or less collapsed state, we should give small doses of warm drink with hot jars around him, and have a warm temperature kept up in the room.

When reaction sets in, small and repeated doses of calomel, in combination with James's powder, ipecacuanha, or tartar emetic; if diarrhœa occurs, hydrargyrum cum creta, with Dover's powder, should be administered; or, if this will not check it, we may try small anodyne injections. But the principal danger to be dreaded, and which is chiefly to be guarded against and combated, is that arising from bronchitis, laryngitis, or pneumonia; and nothing is more likely to keep off their approach than inhaling a warm atmosphere, in conjunction with the use of calomel. If, however, any of these symptoms set in, they must be met by the ordinary measures used in such cases.

† III.—*Injuries and Diseases of Bones.*

One of the most valuable works which has ever issued from the press on the subject of fractures, by Dr. R. W. Smith, of Dublin, is now before us; we are given to understand that it is the result of the careful observation and continued labour of years. It embraces some of the most difficult points connected with the subject, which are handled in the most masterly style; it is eminently both philosophical and practical, and its general utility is greatly enhanced by numerous illustrations which convey to the reader, more effectually than any description in words could do, the nicer shades of difference presented to the view by some of the more obscure cases of injury to the bones in the vicinity of the joints. The substance of some of the more important chapters is summed up in several series of corollaries, which have been introduced into a former part of our present Volume (Art. 40, p. 80). We are induced, however, again to refer to the work, and to place before our readers some additional observations.

15. *Fractures of the Neck of the Femur.*—Mr. Smith's view of the value and diagnostic import of the two much disputed signs—shortening of the limb, and inversion or eversion of the foot, will be found in the article just referred to. He remarks that the surgeon who supposes the difficulties of diagnosis slight and easily overcome, can have but a very limited experience of such injuries; on the amount of shortening which occurs in the two varieties, the intra- and extra-capsular fracture, respecting which so remarkable a difference of opinion even now exists, he feels certain that the *degree* which immediately succeeds to the injury, may, with proper precautions, be considered as diagnostic of the *seat* of the fracture, this being *greater* when the lesion is external to, than when it is within, the capsular ligament. When the line of fracture, in intra-capsular fractures, is perpendicular to the axis of the neck of the bone, or when it has passed from the superior part of the corona of the head obliquely downwards and inwards, the inferior fragment is drawn upwards,—or at all events there is nothing to prevent its being so drawn upwards. But when the fracture runs from the inferior part of the corona obliquely downwards and outwards towards the summit of the trochanter major, then, if there be no displacement as regards the diameter of the bone, the ascent of the lower or external fragment is opposed by the superior, and the amount of shortening is less than in either of the other cases.

If the force that acts upon the neck of the femur be inconsiderable, the fibrous

membrane which encircles it—"the cervical ligament of the femur"—may escape uninjured, in which case the retraction of the limb will be inconsiderable, and will be at its minimum when the fracture has traversed the bone obliquely from the inferior part of the head downwards and outwards, as just now stated. The synovial and fibrous membrane remaining entire, may have the effect of keeping the fractured surfaces firmly together, and the limb may be thus secured from any change in length or position; or remaining entire on the anterior side, eversion may be wholly prevented, and again remaining entire on either side of the neck of the bone, shortening of the limb will be counteracted.

This author gives very cogent reasons against the assertion of Dupuytren, that the occurrence of shortening, at a period more or less remote from the receipt of the injury, as in an instance referred to by the surgeon of the Hôtel Dieu, in which, at the end of four months, it was said to take place *suddenly*, is attributable to the "yielding of the callus." Mr. Smith attributes the occurrence to the gradual process of absorption going on in the neck of the bone, though it might have escaped observation as long as the patient remained in bed with the limb inclosed in an extending apparatus. In the case here referred to, he doubts the fact of its having taken place *suddenly*. (p. 13.)

Mr. Smith has never seen an instance of fracture external to the capsule in which there was not shortening of the limb from the very moment of the occurrence of the accident;—there is in many instances a primary and immediate shortening; and the so called consecutive displacement is merely an increase in the amount of shortening already existing. His experience also leads him to deny that a fracture of the neck external to the capsule ever occurs without injury to the trochanter; these fractures are always in the first instance *impacted fractures*, and all impacted fractures are necessarily accompanied by a fracture traversing some part of the trochanteric region. In a hundred specimens examined, without a single exception, a second fracture was found in this region. This is the necessary result of the impaction of the broken cervix into the shaft of the femur, and occurs secondarily in the order of time. The forces in play, and the manner in which this complicated injury is produced, are admirably discussed (p. 17), the illustrative plates are most complete and instructive. They fully explain how it happens that the shortening is sometimes greater and sometimes less in the extra-capsular fracture.

From what has already been stated, it will be seen that Mr. Smith does not agree with those in opinion who maintain that the shortening of the limb is a symptom destitute of value in determining the seat of the injuries with respect to the capsule; cases, it is true, frequently occur, in which this symptom is not of itself sufficient to determine the question; but suppose a surgeon meets with a case in which the shortening does not exceed half an inch, he knows that this may indicate a fracture either within or without the capsule, but he also learns from it, that if the fracture be external, it is also an impacted fracture; he then examines further, and if he finds it impossible, or extremely difficult, to restore the limb to its natural length by extension, that he cannot elicit crepitus, that the loss of power is not as complete, or absolute, as in fracture within the capsule, he at once connects these symptoms with the slight degree of shortening, and from their union he forms the diagnosis of extracapsular impacted fracture of the neck of the femur.

Rogel's diagnostic sign is rejected, viz., the direction of the force by which the fracture has been produced, as a means of arriving at a differential diagnosis as to the seat of the fracture.

As respects the difficulties of diagnosis in those comparatively rare cases in which decided and prominent *inversion* of the foot occurs, Mr. Smith, after stating that he regards them as being most frequently extracapsular fractures—in five cases out of seven this having proved to be their seat—proceeds to show that it is these cases which are specially liable to be confounded with luxations. Whenever the fractured portions of the trochanter can be brought into contact, a crepitus may be produced; but when, from the direction of the fracture, one portion of the trochanter has been drawn towards the great ischiatric notch, no crepitus may be discoverable; and a source of error will exist, from the resemblance of the fractured portion of the trochanter to the head of the femur; and if, with this circumstance, there should happen to be inversion of the limb, the difficulty of diagnosis will be in-

creased; but the presence of this inversion should never be allowed to embarrass our diagnosis—the facility with which the limb can be brought to its natural length by extension—the recurrence of the shortening when the extending force ceases to act—and the possibility of flexing the thigh upon the abdomen, establish the diagnosis between fracture external to the capsule and further displacement of one or both trochanters.

The inversion of the foot in these cases is not produced simply by muscular action, as taught by some surgeons. Mr. Smith states, that the deformity having been removed by extension, as soon as the force ceases to act, the limb is again shortened, but the foot will now be found to remain everted. There is no instance in which, under similar circumstances, a fracture will exhibit opposite characters; and, with Cruveilhier, Mr. Smith believes that the inversion is attributable to the *relative position of the fragments of the bone*, rather than to the influence of muscular contraction. In every instance of fracture of the neck of the femur, accompanied with inversion of the foot, which Mr. Smith has had an opportunity of examining after death, the inferior has been placed in front of the superior fragment, and the author makes the suggestion, that in this position, the direction of the fibres of certain muscles being changed, the inversion is produced secondarily by muscular influence, but the question is one still open to investigation. Turning to the pages of systematic writers for an account of the various causes to which the occasional inversion of the foot has been attributed by different surgeons, we find them given by Mr. South.* The doctrine of “partial fracture” of the neck of the femur, as laid down by Mr. Colles, and also by Mr. Adams,† according to Mr. Smith, has not been established; in all the cases of supposed partial fracture external to the capsule, there has been unequivocal testimony of the existence of fracture of the trochanter; and they are all cases of the impacted and complete fracture, rather than of partial fracture of the cervix. With respect to partial fracture within the capsule, as described by Mr. Colles, Mr. Smith is manifestly sceptical; he is disposed to believe that some mistake has been committed, the exact nature of which, since the specimens cannot be found, it is now impossible to ascertain.

The question, whether osseous union ever takes place in fracture within the capsule, is assumed in this work to have been satisfactorily answered in the affirmative. Bony union is not effected through the medium of a provisional callus; but, as in some other instances in the animal economy, is effected by direct union of the broken surfaces confronted to each other. Mr. Bransby Cooper's opinions on this subject were placed before our readers in our Second Volume; these opinions are rejected by Mr. Smith. Eight cases are given in the text illustrative of the affirmative of the question, but on this part of the subject we may refer our readers to our former Reports.‡

15. *The Treatment of Fracture of the Neck of the Femur.*—Mr. Vincent has some philosophical views on this subject.§ The injury is so close to the centre of gravity of the whole body, that every slight movement must produce motion between the broken parts, but these motions are only likely to take place in actions where there is a movement forwards, as in the movements of the head and limbs, which are nearly all forward and backward; while, therefore, the patient is on his back, there is a continual interruption to the curative process; but, on the side, there are so few continuous lateral movements, and perhaps not one in which the movement is about the centre of gravity, that in this position there is the least possible interruption to the uniting process; the centre of gravity is directly over the injury, and the whole weight of the body presses on the bones, and keeps them in apposition. Mr. Vincent has treated cases by this method, and they have turned out much better in restoring the powers of the limb than the plan usually adopted. The lateral position requires that the thigh should be bent on the trunk, and the leg on the thigh. The position of placing the patient half on the side and half on the back is doing little. The sound hip should be vertically over the injured one. However, the fact is, that the age of the subjects of this accident compels us to adopt the position on the back, and the inclined plane, as it is only in this way the func-

* Notes to Chelius, vol. i. p. 565.

† Cyclopædia of Anatomy, art. “Abnormal Condition of the Hip Joint.”

‡ Report on Surgery, vol. ii. p. 201, and vol. iv. p. 226.

§ Lib. cit., p. 51.

tions of life, in the advanced stages, can be even tolerably well carried on. Moreover, as on the side the whole weight of the body is concentrated on the trochanter major, the chances of sloughing are much greater than when the pressure is spread over the large surface of the back.

The cases where the fracture takes place at the root of the trochanter, so that this process is still attached to the shaft of the femur, and the neck remains with the head, are not so common. The treatment of placing the patient on the side is the best, as it secures him from the jars and displacements that must occur when he is on his back; and as the cases are usually in individuals of less advanced age, as in the fracture of the actual neck, it can in general be adopted. In this injury the fracture unites well as to strength, but usually leaving the limb shortened; and if treated on the back, without great care, with the foot much turned out.

16. *Fracture of the Lower Extremity of the Radius*.—Mr. Smith has some valuable remarks on Colles's fracture. In the first place he has never seen it so high up as originally described by Dr. Colles; the most usual seat is from three quarters of an inch to an inch above the radio-carpal articulation; sometimes it is only a quarter of an inch above the joint, but he has never seen it higher than one inch; it always appears to be higher than it really is, but should the lesion of the bone take place at two inches or more above the joint, it no longer presents the peculiar and remarkable characters which distinguish the injury which has been designated after Dr. Colles. This particular fracture has also been described by many surgeons as an impacted fracture;* Mr. Smith's reasons for dissenting from this opinion are given in our Extracts (Art. 40).

17. *Fractures of the Humerus*.—No surgeon can have been long in considerable practice without having met with difficulties in the diagnosis and treatment of injuries at the shoulder-joint. These injuries, so far as fracture is concerned, are most satisfactorily elucidated in Mr. Smith's work.† This surgeon defines clearly the fracture as seated at the anatomical neck of the bone, at the line of junction between the epiphysis and the shaft, and those which traverse the surgical head of the bone. The corollaries under this head in our present Extracts are well entitled to the attention of the practitioner. Instances are given of *fractures of the greater tuberosity*, one of which was inserted in our Fifth Volume (p. 79). The diagnosis of this particular case is laid down as follows: The acromion more prominent than natural, but the finger cannot be sunk into the glenoid cavity; no difficulty in approximating the arm to the side; the breadth of the joint greater, "nearly double" that of the opposite one; the existence of two tumours, the inner and larger placed under the coracoid process, and evidently constituted by the head of the humerus; the external and smaller apparently formed by the greater tuberosity, corresponding in situation to the glenoid cavity; these tumours separated by a deep and well-marked sulcus, following the direction of the bicipital groove.

At first sight the appearances resemble those of dislocation of the head of the bone forwards, but the facility with which the elbow can be brought to the side, and the great increase in the breadth of the joint, are sufficient to establish the differential diagnosis.

The *extracapsular* impacted fracture, occupying the situation which marks the junction of the epiphysis with the shaft, and accompanied by penetration of the superior by the inferior fragment, is extremely difficult of diagnosis; the principal points upon which this is to be formed are given in our Extracts: but in the text Mr. Smith further directs, that in order to form a decided opinion, let the surgeon, with both hands, grasp the head of the bone with firmness sufficient to maintain it as nearly as possible in a fixed position, while an assistant rotates the elbow, by which method, in a majority of cases, crepitus can be produced.

The diagnosis of the *intracapsular* impacted fracture, as compared with that of the extracapsular impacted fracture, is simple; this is the fracture which traverses the anatomical neck of the bone, in which the superior fragment is driven into the inferior fragment, one of the tubercles being usually broken off from the shaft; thus this particular fracture of the humerus is analogous to the *extracapsular* impacted fracture of the cervix femoris, while the former is analogous to the *intracapsular* impacted fracture of the latter bone.

* Millar's Practice of Surgery, p. 313.

† Page 176.

In former Volumes the subject of bony union of intracapsular fractures of the cervix femoris has been laid in full before our readers; it is interesting to know the result of Mr. Smith's observations as respects this question in analogous fractures of the humerus. Mr. Smith states that, notwithstanding the unfavorable circumstances in which the bone is placed, as regards bony union, when a fracture has traversed the anatomical neck and there is no impaction, there is abundant evidence to prove that osseous consolidation may still be accomplished; but it is highly probable, where this fortunate result has occurred, the vascular communication between the fragment has not been entirely cut off, and that the margins of the fragments have remained here and there connected with each other, by the attachment of the capsular ligament, the vascular supply derived from which proved adequate to the preservation of the vitality of the head of the bone. Bony union in the impacted form is much more certain in consequence of the impaction.

The impacted fracture always unites with a certain degree of deformity, and as regards the intracapsular variety, it would be imprudent to restore to the joint its natural form, since we should thus materially diminish the chance of osseous consolidation. In the treatment of such cases, it is therefore sufficient to bandage the arm to the side, and to support the forearm in a sling; but the prudent surgeon will never omit to announce to the patient that a certain degree of impairment of the motions of the joint will be a permanent result of the injury.*

There are some other varieties of these injuries, and most important and interesting pathological and practical points, which we may have opportunities of referring to in future Volumes.

18. *Ununited Fractures; their treatment by a modified application of the Seton.*—After allusion to the irrationality of the methods by friction of the ends, of cutting down upon and sawing the ends, and the pressure of a seton between the ends of the ununited fragments, Mr. Francis Rynd publishes some cases in which a seton was applied successfully in the following manner. In an ununited fracture of the tibia and fibula, a curved seton-needle was passed into the inside of the leg, exactly opposite to the fracture, through the integuments, so deeply as nearly to touch the posterior internal edge of the tibia; it was then directed in a semicircular course anteriorly, over and close to the prominent extremities of the fractured bones, and was brought out on the outside of the limb, so that the fracture lay between the points of its entrance and exit; the seton not touching or passing between the fractured extremities of the bones. An ununited fracture of the humerus, of fourteen months' standing, was cured by this method; also a case of a ligamentous union of a fracture of the femur, of fifteen months' standing; also an ununited fracture of the patella was cured by the same method.†

19: *Badly-united Fracture.*—Mr. Rynd describes a very interesting case of deformity from a badly-united fracture of the bones of the leg, treated by resection of portions of the bones, and resulting in perfect recovery without deformity.‡ An incision was made four inches in length, commencing two inches above the deformity, parallel to and behind the posterior edge of the fibula; this incision severed the connections of the soft parts with the bone in this direction; a similar incision was made along the posterior edge of the tibia. Those incisions were connected inferiorly by a transverse one in front, passing through the skin and integuments; the portion thus incised was dissected up, and formed a flap, which, being raised, exposed completely the deformed bones; a chain saw was then passed round the fibula, keeping close to it, in order to avoid the vessels, and the bone was sawed through above the deformed part, then below it, in a similar manner; the piece was firmly attached to the angular portion of the tibia, and so not easily removed; the deformed portion of the tibia was removed in a similar manner. The limb was then placed straight, the extremities of the bones in apposition, the flap was drawn down, it covered the whole wound, and was united by a few points of suture; the limb was placed in a case prepared for it, and the man put to bed; there was not a blood-vessel divided, nor was there an ounce of blood lost.

Profuse suppuration ensued; in the fourth week after the operation, erysipelas set in, which extended all over the leg to the knee; two days afterwards, mortification set in along the line of incision, and soon engaged the greater part of

* Lib. cit., p. 191. † Dublin Quarterly Journal, Nov. 1847, p. 273. ‡ Ibid., p. 288.

the flap. At the termination of the seventh week after the operation, the aspect of the case was so bad that, after consultation, amputation was resolved on; the poor fellow begged for time, which was assented to; he struggled on, and, in little more than a month after this, a portion of the tibia exfoliated. He then began to get better, and, after nearly ten months' confinement, the cure was complete, his leg being straight and of the same length as the other. The patient's anxiety to have the deformity removed and the use of the limb restored, and the intolerable pain he suffered, were the circumstances which justified the operation.

20. Dr. Stark describes a "*Case of Dislocated Head of the Radius successfully reduced two years and one month after the occurrence of the dislocation.*" The author recites the opinions of Astley Cooper, Flanbert, Marx, and others, that dislocation of ball-and-socket joints may be reduced at a much later period than those of hinge-joints, but limiting even the former to a few months. and that the latter become irreducible within a very short period after the accident. As the chief danger in reducing old dislocations is said to arise from the risk of rupturing the muscles, blood-vessels, or nerves by violent efforts at reduction, it was determined in this case to extend the arm firmly, but gently, day by day, till the new adhesions at the head of the radius were so much lengthened, or the head so loosened from its new site, that by the employment of not much additional force, the bone could at last be replaced. The extension was effected by seizing the hand of the patient with the right hand, bending the elbow-joint so that the forearm formed a right angle with the arm, and applying the counter-extension by pressing the left hand close above the elbow-joint, and thus fixing the humerus. The extension was continued until slight uneasiness was complained of. It was repeated daily for three weeks, when the head of the radius had become loosened, and could be pulled to the edge of the articular head of the humerus. When brought into the latter position, the ball of the thumb of the left hand was pressed against it, and bending the forearm on the arm, the bone quietly slipped into its place.*

21. *Abscess of the Tibia*—Dr. Hutton publishes cases of this disease, from which it is to be inferred—that inflammation of the cancellated structure of the bone may occur without terminating in suppuration—that after suppuration a cavity is formed, lined by an organized membrane, and containing pus alone, or pus with small fragments of the cancellated structure—that in most cases the osseous walls become denser and thicker, and the medullary canal blocked up, but where spontaneous openings occur, there, of course, the walls are absorbed—that it is probable in most cases where the abscess heals, the cavity remains, secreting fluid, which is again absorbed—that the temporary variations in the swelling depend upon the condition of the soft parts, but the firm swelling, which slowly extends itself along the shaft of the bone, depends upon the enlargement of the bony structure—this *progressive* enlargement, taken with tensive pain, aggravated at intervals and not yielding to treatment, with impaired health, supplies a valuable means of diagnosis—that in abscess of the cancellated structure, the swelling and pain occupy the extremity of the bone, and, unlike necrosis, the periosteum is often not sensibly influenced at first. As respects treatment, spontaneous openings, when they happily occur, bring relief, and the surgeon should certainly hasten this consummation; and although in simple purulent abscesses small openings may suffice, it is generally judicious to make a free opening to clear the cavity of all debris, and the probability of large articulations in their vicinity becoming implicated, is an additional reason for promptly giving exit to the confined matter.†

§ IV.—*Injuries and Diseases of the Urino-genital System, &c.*

22. *Lithotriety*.—M. Civiale has lately published a beautiful octavo volume on lithotriety, founded upon his unrivalled experience, his cases being reckoned by hundreds, and the mass of facts exceeding, perhaps, those contained in any other monograph in surgery. The work is entitled "*Traité Pratique et Historique de la Lithotrité,*" and is divided into two parts, the first being an exposition of the practice, and the second of the history of lithotriety. The first part contains eight chapters.

* Edinburgh Med. and Surg. Journ., Jan. 1848.

† The Dublin Quarterly Journal, Feb. 1848, p. 279.

- 1st. Of the instruments employed in lithotomy.
- 2d. Of the operation.
- 3d. Of the preparatory treatment.
- 4th. Of the application of lithotomy to different cases, simple and complicated.
- 5th. Of the after treatment.
- 6th. Of the accidents from lithotomy.
- 7th. Of the arrest of fragments in the urethra, and of urethral lithotomy.
- 8th. Of the relapse of calculous affections after lithotomy.

The historical part is divided into three sections.

1st. Indications, more or less vague, of lithotomy before 1817.

2d. Origin and development of lithotomy in France.

3d. Sequel of the development of lithotomy in France and other countries.

On the 17th of August M. Civiale read a paper at the Academy, "*Appréciation des Résultats de la Taille à l'Aide des procédés de la Statistique.*" He collected 5875 of the most authentic cases of lithotomy; among which there were 1221 deaths, or 1 in 481, and he arrived at the conclusion—1st, That lithotomy skillfully performed, and limited to suitable cases, saves 96 to 98 of every hundred patients. 2d. That a fourth of the cases rebellious to lithotomy may be subjected to lithotomy. 3d. That by lithotomy applied exclusively, and without distinction of age, from 20 to 30 per cent. are lost. 4th. That applied to children only, lithotomy saves nine-tenths. 5th. That applied to adults and old persons, it saves from 50 to 75 per cent.

23. *Spermatorrhœa*.—Mr. H. J. M'Dougall has furnished the profession in this country with a translation of Professor Lallemand's well-known work on this subject. The opinions and practice of the French surgeon have been so generally promulgated, that it is quite unnecessary to recite them at this late period; but we submit Mr. Phillips' practical remarks on the same subject to the consideration of our readers. (Ext. Art. 67, p. 114.)

The translator thinks that involuntary seminal discharges are little understood by the profession in this country, and he remarks truly that attention to them has been too generally avoided by regularly educated practitioners. In his preface he refers to the papers published by Mr. Phillips, in the "*Medical Gazette*," in 1843; also to contributions by Dr. Ranking, Dr. Dangerfield, and Messrs. Ryan, Chatto, Dudgeon, Curling, and Dr. Smyth, interspersed with various publications, as the sum of the literature of the subject in this country. In oral lectures and in the textbooks of surgery, the subject is, by common consent, omitted. Professor Miller's "*Practical Surgery*," published in 1846, which contains a short notice on spermatorrhœa, is mentioned as the only exception. Mr. M'Dougall considers epilepsy as a symptom of spermatorrhœa, produced by masturbation; he refers to two uncomplicated cases of epilepsy following masturbation; in which, after the practice had been arrested, the effect ceased; and he considers it a question of considerable importance whether the paroxysm may be kept up by involuntary discharges, after having been once excited in the manner referred to. Mr. M'Dougall also regards as another symptom of spermatorrhœa the occurrence of urethral discharge from very slight excitement, frequently giving rise to the unfounded suspicion of the existence of gonorrhœa. He is a disciple of Lallemand's, as respects the utility of the application of the solid nitrate of silver.

Mr. Phillips, to whose paper we again refer our readers, has considerably modified the opinions which he formerly expressed. Without denying that a process of absorption may take place in the vesiculæ seminales, he believes that a natural necessity exists for the excretion of the seminal fluid accumulated in these reservoirs. In some cases relief is obtained spontaneously; in others voluntarily, either by masturbation or sexual intercourse. The relief does not occur, in some cases, oftener than is consistent with health, whilst in others it happens so frequently as to interfere very seriously with the general health; but he is satisfied that in a majority of cases, where the health becomes affected, the discharges have not been involuntary at all. In 463 cases, in which he has been consulted, Mr. Phillips states that the discharge did not occur more frequently than was necessary to relieve the distended seminal vesicles, although, in most of them, the usual effects were painfully exhibited. The discharge in these cases is not usually frequent, and may continue for a long time without damage to the constitution,

although there is always a risk that permanent irritation may be set up. The reader will at once perceive that Mr. Phillips places his reliance, in the treatment of these cases, on regulated and habitual sexual intercourse.

24. *Aphthæ of the Lower Part of the Large Intestine, commonly called Fissures.*—In a letter to M. Bretonneau,* M. Miquel maintains, in the first place, that fissures are always the result of small ulcerations, analogous to the aphthæ of mucous membranes generally; that spasm of the sphincters is always the effect and not the cause; that the irritation or disturbance continually produced by defecation perpetuates the affection; and, finally, that it is sufficient to change the character of the ulcer to cause the spasm to cease; that energetic astringents will effect this, and that an operation is required in a very small number of cases. During the employment of rhatany, or nitrate of silver, it is necessary to resort to oily and emollient enemata, for the purpose of keeping the bowels free, and preventing the fæces becoming solid. During the treatment a vegetable diet is to be preferred.

25. *Operation for Internal Hemorrhoids.*—Professor Riberi, of Turin,† seizes the base of the tumour, however high it may be placed, with a curved, pointed hook, or tenaculum, and draws it downwards; he then passes a second curved tenaculum through the base, at right angles to the first; the convexity of the curve of the instruments being directed upwards, and their points outwards from the anus. The two instruments are held by an assistant, a ligature passed behind them, and the tumour strangulated, after which the instruments are gently withdrawn. One extremity of the ligature is cut short, and the tumour returned into the rectum without puncturing it. A feeling of numbness is felt by the patient after the operation, to be alleviated by an injection of cold water. The ligatures separate about the third or fourth day, and the cure is complete from the twelfth to the twentieth. The operation has been uniformly successful in M. Riberi's hands.

§ V.—Aural Surgery.

In the "Archives Générales,"‡ an account is given of some important statistical researches of diseases of the ear by Dr. Kramer of Berlin, the materials having been drawn from the most attentive examination of 2000 cases. The results are recorded in a journal, which comprises the name, age, and place of residence of the patient, the date of the attack, the causes of the disease, the existence or absence of tinnitus aurium, and other symptoms, the auditory power of each ear, the treatment pursued by the patient before applying, and that prescribed by the author, the duration of the disease, and its consequences. The results are arranged in 19 tables, and the 2000 cases consist of the following:

Diseases of the auricle	5 or $\frac{1}{15}$
" external auditory canal	281 or $\frac{1}{3}$
" membrane of the tympanum	442 or $\frac{1}{2}$
" middle ear	198 or $\frac{1}{5}$
Nervous deafness	1028 or $\frac{1}{2}$
Dumb deafness	46 or $\frac{1}{25}$
	<hr/> 2000
1st. <i>Diseases of the Auricle.</i>	
Hypertrophy and induration	3
Erysipelas	1
Abscess	1
	<hr/> 5
2d. <i>Diseases of the External Auditory Canal.</i>	
Accumulations of wax from erythematous inflammation of the lining membrane	213
Catarrhal inflammation	51

* *Revue Médico-Chirurgicale*, Feb. 1848, p. 55.

† *Giornale dell' Accademia Médico-Chirurgica di Torino*.

‡ Nov. 1847; p. 335, from *Beitrag zur Ohrenheilkunde*.

Phlegmonous inflammation	9
Periostitis with caries	8
	<hr/>
	281
3d. <i>Diseases of the Membrane of the Tympanum.</i>	
Acute inflammation	45
Chronic inflammation	397
	<hr/>
	442
4th. <i>Diseases of the Middle Ear.</i>	
Catarrhal inflammation of the mucous membrane with accumulation of mucus	164
Inflammation, with contraction of the Eustachian tube	28
Obliteration of the Eustachian tube	2
Inflammation, with abscess of the cavity of the tympanum	4
	<hr/>
	198

The catarrhal, phlegmonous, and periosteal inflammations of the auditory canal were attended with running from the ear, but these constituted only one-seventh of the cases of running. Of 510 cases of discharge, about six-sevenths depended upon inflammation of the membrane of the tympanum. Nearly one-fourth of all the cases of deafness met with are caused by inflammation of the membrane of the tympanum, or its consequences, and in general the auditory canal does not participate in this inflammation. The great frequency of catarrhal inflammation of the middle ear depends upon its proximity to the nasal fossæ and throat, which are so frequently the seat of catarrhal inflammation; for instance, a slight deafness is frequently observed in an ordinary coryza, which usually disappears with the catarrh, and is then most probably dependent upon the orifice of the Eustachian tube being affected, and rarely the cavity of the tympanum.

When one ear is affected with a discharge, the practitioner should never fail to examine with attention the auditory power and the organic condition of both ears, for a discharge may be too thick or in too small a quantity to make its way externally, and the patient's statement should never be trusted, for he frequently believes that the hearing is perfectly good, when on investigation it is found to be only a little less imperfect on one side than on the other. Of the 2000 cases, 1639 were cases affecting both ears, and 361 only were single affections. Dr. Kramer observed, in all the cases of phlegmonous inflammation of the meatus externus, one side only was affected, and that catarrhal and periosteal inflammation was much more frequently single than double. Of the cases of nervous deafness, 984 were double, and 44 single, or twenty-two to one.

Acute inflammation of the membrane of the tympanum rarely passes into a chronic state, as may be inferred from the extreme relative frequency of the latter. Mr. Wilde,* of Dublin, who has paid great attention to the subject, states, on the contrary, that the appearances of chronic inflammation of the drum are to be found as the sequelæ of all the other forms of inflammation, just as chronic succeeds to acute ophthalmia. As respects the complications of diseases of the ears in the same individual, Dr. Kramer found 38 cases only, where, one ear being affected, there was more than one disease, and 66 cases where, both ears being affected, there was more than one disease. The most remarkable complications were,—

1. Accumulation of wax in the auditory canal on one side, and nervous deafness in the other (5 cases). 2. Chronic inflammation of the membrane of the tympanum on one side, and accumulation of mucus in the middle ear (10 cases); or nervous deafness (18 cases) in the other. Also, united in the same ear—1. Accumulation of wax in the auditory canal, and of mucus in the middle ear. 2. Accumulation of wax, with nervous deafness. In general, however, in nervous deafness, the secretion of wax, as well as the mucous secretion of the middle ear, are decidedly diminished. 3. Catarrhal inflammation of the auditory canal, and a certain degree of inflammation of the membrana tympani, without any tend-

* Dublin Quarterly Journal, Feb. 1848.

ency in this inflammation to terminate in suppuration, ulceration, or any other change of texture.

In 305 cases of chronic inflammation of the membrane of the tympanum, with perforation, internal otitis occurred only six times; when perforation did not occur, an accumulation of mucus in the internal ear never presented itself. In this inflammation the reappearance of wax should be considered a good sign, as it indicates the cessation of the chronic inflammation.

Inflammation of the mucous membrane of the tympanum neither extends to the tympanum itself nor to the labyrinth; as soon as the mucus is evacuated the hearing is restored. Dr. Kramer was certain that in 164 cases of this nature the membrana tympani remained perfectly healthy.

For the purpose of *diagnosis* in diseases of the external auditory canal and of the membrana tympani, it is necessary to employ the *speculum auris*. Two thirds of the diseases of the ears have their seat beyond the field of observation, and in those of the middle or internal ear, catheterism of the Eustachian tube is of the greatest moment; it is here that the *tactus eruditus* and a fine sense of hearing constitutes the superiority of the experienced practitioner. By the ear especially he may appreciate the nature of the *bruit* which the air produces in penetrating into the cavity of the tympanum. The ear cannot furnish indications so certainly as the sight, but this is no reason for rejecting its assistance, and Dr. Kramer concludes that it is impossible to treat these affections properly without the aid both of the speculum and of the catheter; catheterism being performed in various ways.

Dr. Kramer considers the ticking of a watch the best term of comparison of the power of hearing in different diseases of the ear. A good ear will perceive this at a distance of 30 feet. Individuals who do not hear a watch tick when applied directly to the ear, cannot hear what a person says when speaking loudly and very close to the ear. The sense of hearing is a little better when the watch is heard by direct contact; but it is only when the patient can hear the tick at a distance of several inches, and especially several feet, that he can follow up a conversation. It is worthy of remark, that the susceptibility in the ear to perceive the human voice is not always in relation with the susceptibility to perceive the tick of a watch; it may be more or less susceptible as respects the one or other of these sounds.

The general result of an examination of the power of hearing in 3639 cases of diseased ears is, that in all diseases of the external auditory canal, of the membrane of the tympanum, and of the middle and external ear, deafness may proceed to a great extent; but it is especially in affections of the internal ear that it is most frequent and most complete.

In chronic inflammation of the membrana tympani, the general limit of the auditory power is from one to three feet (one foot in half the cases and three feet in one-sixth of the cases). With organic alterations of the membrane, to all appearance analogous, the deafness may vary to a very great extent; and reciprocally, with great differences in the state of the membrane we may find divers degrees of deafness. This kind of contrariety is very frequent where a perforation of the tympanum exists, and is explained by the impracticability of recognising the changes, independent of the perforation, which may have been produced in the parts inclosed in the cavity of the tympanum.

Whenever in this case the patient cannot hear the watch, or hears it only at a very short distance, there is but little hope of re-establishing the hearing, although the inflammation be suspended; the prognostic is a little more favourable when the auditory power extends to several inches.

When the membrane was perforated in this affection, which occurred in 217 patients and in 305 ears, deafness was complete in 50 cases, the power of hearing extended to one inch in 80, to one foot in 113, to three feet in 50, more than three in 9, and to a considerable distance in 3. In 180 patients and 359 ears, where perforation had not taken place, deafness was complete in 42 cases; hearing extended to an inch in 88, to one foot in 148, to three feet in 51, to more than three feet in 19, and indeterminate in 11. Complete deafness was proportionally more frequent as the perforation was of *small* dimensions, but hearing was much more frequently preserved intact when there was no perforation, so that little advantage could result from perforating the membrane of the tympanum. If, however, it should

be deemed expedient in any cases to resort to this operation, the opening should be made rather large, since the hearing suffers much less from a large than from a small opening; but it is important to remark that if *very* large (the size of a lentil), the auditory power which remains does not extend so far as where the opening is smaller. The hearing was not completely preserved in any case of perforation, although in the most favourable cases, the patient could sustain a conversation with ease, so that a superficial observer might imagine that a partial destruction of the membrane is consistent with perfection of hearing.

In 676 ears affected with chronic inflammation of the tympanum, scarcely one in three was so affected independent of polypus or perforation: in more than two-thirds, the membrane was perforated or covered with polypous vegetation; the two affections being united in 37 cases. Six-sevenths of the discharges from the ears depended upon chronic inflammation, with perforation or polypi.

Tinnitus aurium existed in 117 out of 305 cases of perforation. In the 2000 cases it was observable in 1267; there was no trace of it in the deaf and dumb. In accumulation of wax in the meatus, acute inflammation of the membrane of the tympanum, and nervous deafness, it existed in three out of four cases; in catarrhal inflammation of the meatus, in phlegmonous inflammation of the same, internal otitis, and accumulation of mucus in the tympanum, it was as frequently absent as present; in chronic inflammation of the membrane of the tympanum, it was absent in two cases out of three.

Kramer's researches have led him to the conclusion, that tinnitus aurium is valueless as a symptom, it is rarely met with without some affection of the auditory power; but all its varieties accompany indiscriminately all the diseases of the ear, and every variety of disease may run through its whole course without presenting a trace of it, and without any obvious reason for its presence or its absence. Mr. Wilde, however, thinks it more than probable that a knowledge of the peculiarities of this symptom may yet be found to assist in the diagnosis of particular forms of deafness.*

Of all the diseases of the ear, according to Kramer, three only can be regarded as having an acute character, viz. erysipelas of the auricle, acute inflammation of the membrane of the tympanum, and phlegmonous inflammation of the lining membrane of the auditory canal.

Caries of the auditory canal occurs before ten years of age, and is generally dependent upon the scrofulous diathesis; acute inflammation of the membrane of the tympanum occurs from 20 to 40 years of age, and is independent of diathesis; and chronic inflammation of the same membrane is always connected with the scrofulous diathesis; two-thirds of the cases occurred between the ages of one and ten years, and chiefly during the first two years, as a sequel to exanthema, and were chronic from the beginning.

Nervous deafness generally comes on very insidiously, being most frequently developed from 20 to 30 years of age, after the application of cold, or moral affections. It rarely occurs before 10 or after 60 years of age. It first affects one ear and makes slow progress, not attacking the other until the lapse of a considerable period.

Among the 2000 patients treated by Kramer, more than four-fifths had always enjoyed good health, the disease being purely local, and local treatment alone was employed. In the remaining fifth there were complications, the most frequent being general nervous debility, coinciding almost exclusively with nervous deafness, and never with inflammation of the mucous membrane of the middle ear.

Inflammation of the mucous membrane of the tympanum is frequently connected with scrofula and catarrh; the catarrhal affection may exist with nervous deafness, but this is rare.

Nothing is more difficult than to determine the causes of diseases of the ear; their origin is frequently unperceived, since there is rarely pain and deafness; a running or tinnitus aurium alone excites attention, although the affection may have commenced long previously. Of the 2000 cases, in 1609 the causes were totally unknown. Cold appeared to be the most common cause of acute inflammation of the membrane of the tympanum, and of phlegmonous inflammation of the ex-

* The Dublin Quarterly Journal, March 1847.

ternal auditory canal; also a common cause of that inflammation which produces an accumulation of mucus in the middle ear and of the erythematous inflammation, which occasions an accumulation of wax in the meatus, and of inflammation of the glands of this latter canal. Nervous deafness and chronic inflammation of the membrane of the tympanum also frequently have their origin in cold.

Exanthems, especially scarlet fever, and other diseases of the skin, frequently occasion chronic inflammation of the membrane of the tympanum. Nervous and gastric fevers frequently occasion the same disease, and also nervous deafness; in two cases, gastric fever produced accumulation of mucus in the middle ear. Blows on the ear produced, in 3 cases, glandular inflammation of the canal; in 12, chronic inflammation of the membrane of the tympanum; and in 24, nervous deafness. This deafness may occur instantaneously in consequence of a physical lesion of the head or spine. Nervous deafness is frequently a consequence of violent chagrin, intense toothache, abundant hemorrhage, or the concussion caused by a very violent noise; it also appears to occur, under some hereditary influence, in one case in six.

Small-pox is the disease which destroys, most frequently, and to the greatest extent, the membrane of the tympanum, from chronic inflammation, but confined to one side; measles more frequently leads to perforation on both sides, and scarlatina and cold, although still very powerful causes, have less disastrous results.

Relative to curability, Kramer arranges diseases of the ear into four groups—1st, diseases certainly curable; 2d, diseases in which a cure is probable; 3d, diseases susceptible of amelioration only; 4th, incurable diseases.

1st. Among diseases certainly curable, whatever be their duration, degree, and the negligence with which they may have been treated, are placed erysipelas of the auricle, furuncles, accumulations of wax, catarrhal and phlegmonous inflammation of the auditory canal, acute inflammations of the membrane of the tympanum, and catarrh, with accumulation of mucus in the middle ear. The tegumentous erysipelas of the membrane, which leads to accumulation of wax and of epidermic layers, readily subsides, and when the passage is cleared of the foreign bodies, the patient is immediately relieved. Catarrh and inflammation of the skin and glands give way to saturnine injections, revulsives, and purgatives. When complicated with dartrous and scrofulous affections, general treatment is required, and months may be necessary to effect a cure. Phlegmonous inflammation, if not arrested with leeches, passes rapidly to suppuration; as soon as the abscess is opened, all the symptoms disappear, although the swelling may remain for some time, and occasion inconvenience. Acute inflammation of the membrane of the tympanum generally subsides in a few days, by leeching, revulsives, and injections. Inflammation of the middle ear, with accumulation of mucus, terminates in a cure by aid of those measures intended to expel the mucus and restore the membrane to its healthy secreting power, particularly by the use of the catheter and the air douche. In recent cases it is sufficient to blow through the catheter; when, however, the mucus has become viscid, only a temporary relief is obtained by this means. Dr. Kramer then employs the air douche, and he remarks, that the cold air gives tone to the membrane; to the local means, when there is a particular diathesis, and in particular scrofula, general treatment and an appropriate regimen must be added.

2d. Among the diseases, the cure of which is probable, are arranged—eczema of the auricle, periostitis with caries of the external auditory canal, chronic inflammation of the membrane of the tympanum, retraction of the Eustachian tube, nervous deafness. The chronic inflammation of the membrane of the tympanum is frequently connected with a general dyscrasy, and the chances of cure depend upon our power of action upon the constitution, and upon the extent of organic mischief to the membrane. The membrane being considerably thickened, or perforated to a considerable extent, cannot be restored to its normal structure. Polypous vegetation may, in general, be removed, unless large, flat, and sessile; but since the membrane is at the same time hypertrophied and perforated, their removal can have but little effect. Dr. Kramer adds, if we consider that in half the cases of chronic inflammation this membrane is perforated, and in a quarter of the cases there are polypous excrescences, we may regard as successful treatment the cure of $\frac{1}{4}$ th of the cases; and the amelioration, more or less, of $\frac{1}{4}$ ths,

that is to say, by lessening the suppuration and improving the hearing; in ~~the~~ ^{these} there being no improvement.

Contraction of the Eustachian tube presents fewer chances of successful treatment than chronic inflammation of the membrane of the tympanum; in both cases the want of success arises chiefly from the prominence of the organic changes. Similar causes oppose the cure of *nervous deafness*, whenever the vitality of the auditory nerves has greatly suffered. In fact, these nerves have not only a diminished susceptibility to sonorous impressions, but also a morbid susceptibility to impressions of all kinds, which augments with the progress of the disease; hence the difficulty, and even the impossibility, of finding appropriate remedies, capable of acting upon the auditory nerves without injuring them. In 271 cases the patients could not tolerate any treatment, although they appeared to be in the most favourable state, as respects age and the degree of deafness. In 703 cases, hearing was improved, or the tinnitus aurium was diminished or suspended, in various degrees, by treatment. In 54 cases only, a complete cure was obtained. In the treatment, Dr. Kramer always has recourse to stimulating vapours, especially of distilled water, assafoetida, musk, and bitter almonds; he rarely employs any general treatment, and he has remarked that it rarely happens that any improvement is produced in nervous deafness by general remedies, although they may sometimes be useful before having recourse to local treatment, in order to re-establish the general health, if deteriorated.

3d. Among the diseases susceptible of amelioration only, the author places internal otitis, a disease the resolution of which may occur in rare cases, but which, in most cases, entails, independent of the destruction of the organ, real danger to life.

4th. The incurable diseases are only the obliteration of the Eustachian tube and deaf-dumbness.

Finally, Dr. Kramer is satisfied that an electro-magnetic current is a powerful stimulant of the organs of hearing, principally when directed from the inferior orifice of the Eustachian tube, towards the external auditory canal of the same side. This stimulant action manifests itself by convulsive titillation, and pains in the ear, with a temporary augmentation of the power of hearing, which is generally not of long duration; and also by the augmentation, at the time, or shortly after the operation, of the tinnitus aurium. It requires great prudence in its employment, and must be abandoned if the tinnitus aurium increases in a marked degree, without a favourable change in the power of hearing. Electro-magnetism is useful to verify the existence of nervous deafness.

—A very lengthy and most excellent article, to which we have already referred, "*On the Inflammatory Affection of the Membrana Tympani and Middle Ear*," will be found in the "Dublin Quarterly Journal," by W. R. Wilde, Esq. Mr. Wilde regrets that the modern systems of surgery contain but scanty information on diseases of the ear; and entertains the opinion that, if they were as well studied or understood by the generality of practitioners, and as early treated, as the diseases of the eye, they would be found just as much within the pale of scientific treatment. A minute description is given of the proper method of the examination of the ear, of the most convenient instruments to be employed, and of the appearances presented in health by the membrana tympani.

Myringitis is the designation adopted for the inflammation of this membrane, and inflammation of the middle ear is included under the same term, because the author does not believe it possible for one to exist independent of the other, for any length of time; no more than an ophthalmia can be circumscribed. Experience has proved to Mr. Wilde that the instances of "nervous deafness," that is to say, of deafness with *perfectly healthy* tympanical membranes, are comparatively few, but in such cases there are a variety of pathological appearances which he is fully convinced are the result of different forms of acute and chronic inflammation. In Dr. Kramer's work all the diseases of the membrana tympani are associated with those of the external ear; in Mr. Wilde's opinion, they belong equally, if not more, to those of the internal ear; chronic as well as acute inflammation of the membrane is accompanied with disease of the middle ear more frequently than disease of the auditory passage. Mr. Wilde shows the extreme probability, from analogy, that the 164 cases of inflammation of the mucous membrane of the

middle ear, included in Dr. Kramer's 2000 cases, extending over the membrane at the back of the membrana tympani, as inflammation extends over the aqueous membrane lining the back of the cornea; and other remarks tend to show that Dr. Kramer has been led into error by his favourite theory of "nervous deafness." Mr. Wilde does not think it reasonable that 1028 of 2000 cases are properly attributable to an affection of the auditory nerve, since the most which can be said is, that in these cases the part capable of inspection exhibits no symptoms. In corroboration of this view, Mr. Wilde gives the following table of 708 cases of aural disease, registered at St. Mark's Hospital during three years, in which the proportion of cases of nervous deafness is, in round numbers, only one in five:—

DISEASES.	AGES AND SEXES.											
	under 5		6—15		16—30		31 and up.		TOTAL.			
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Gen. Total.	
Otitis	3	1	9	3	8	6	9	8	29	18	47	
Acute Myringitis	—	2	4	5	10	9	4	5	18	21	39	
Chronic Myringitis	—	1	8	6	15	15	20	17	43	39	82	
Abscess in Membrana Tympani	—	—	1	—	—	—	1	—	2	—	2	
Granular Membrana Tympani	—	—	—	—	1	1	2	1	3	2	5	
Collapse of ditto	—	—	1	1	1	1	1	5	3	7	10	
Otorrhœa	13	8	39	38	31	37	10	9	93	92	185	
Do. with Polypus	—	—	7	5	6	3	2	1	15	9	24	
Do. with Perforation	—	—	1	—	1	1	—	1	2	2	4	
Nervous Deafness	—	1	9	4	11	14	34	21	54	40	94	
Tinnitus Aurium	—	—	—	—	1	7	2	4	3	11	14	
Otalgia	—	—	—	—	1	1	1	1	2	2	4	
Hemorrhage from Ear	—	—	—	—	1	—	—	—	1	—	1	
Deafness from Cerumen	1	2	8	8	14	12	73	43	96	65	161	
Chronic Inflammation of External Meatus	—	—	2	1	4	3	—	3	6	7	13	
Contraction and Ulceration of do.	—	—	1	—	—	—	—	—	1	—	1	
Eczema of Auricle and Meatus	3	1	2	1	1	2	—	5	6	9	15	
Congenital Malformation	—	—	—	—	1	—	—	—	1	—	1	
Deafness from Disease of Throat	—	—	2	1	—	1	1	1	3	3	6	
	20	16	94	73	107	113	160	125	381	327	708	

Mr. Wilde distinguishes the following forms of inflammation of the membrana tympani:—

i. Acute inflammation of the membrana tympani, accompanied by inflammation of the cavity of the tympanum; frequently of a rheumatic character.

ii. Subacute inflammation, accompanied by pain.

iii. Chronic inflammation, with or without inflammation of the tympanum.

iv. Strumous inflammation.

v. Syphilitic inflammation.

vi. Febrile subacute inflammation, accompanying the exanthemata and other fevers; generally producing otorrhœa.

In our Extracts we have given Mr. Wilde's account of the physical signs, and his treatment of acute myringitis and tympanitis (Arts. 43 and 53). We have also recorded his account of chronic myringitis (Art. 44). In the subacute affection, Mr. Wilde states the first symptom is deafness, which has appeared rather suddenly; it may be perfectly painless, but as destructive to hearing as the acute affection, and it may be, but is not always, accompanied by tinnitus, and, generally speaking, there are no constitutional symptoms; the deafness which ensues is of the most irremediable nature, and the author is convinced that such cases have been repeatedly treated as "nervous deafness." It is important to note that according to Mr. Wilde, in this disease mercury is as necessary as in acute myringitis, except only that it should be slowly introduced into the system, so as to produce a steady and gradual effect. It will be seen in the articles extracted, but we may here repeat, that Mr. Wilde's principal remedies in myringitis are leech-

ing and antiphlogistics, generally with *mercury*, and the local application of nitrate of silver.

—A work has been recently published by Mr. Yearsley,* on the subject of diseases of the ear, the object of which is reported† to be, the proving that nine-tenths of the cases of deafness which come before the practitioner will be found to have originated in a morbid affection of the mucous membrane lining the throat, nose, and ear. All the results of myringitis described by Mr. Wilde are referred by Mr. Yearsley to this as their origin. We have not this work before us, but we cannot help remarking the diametrically opposed opinions of Mr. Wilde and Mr. Yearsley on the subject of treatment, as shown by the following extract:—

“If I were asked,” Mr. Yearsley says, “to name, in the order of their frequency and importance, the chief causes which give rise to the condition of mucous membrane, and subsequent loss of hearing, which I have described, I should thus place them: 1, cold; 2, the exanthemata; 3, dyspepsia; lastly, *mercurial medication*. Some of the extreme and most unmitigable cases of deafness I have ever witnessed were produced by severe salivation; and I must confess that I never saw a case of this kind, of any standing, which derived decided benefit either from local or constitutional treatment. If there is in the *materia medica* a medicine which has the power of acting as a poison to the sense of hearing, where there exists predisposition to deafness, I believe it to be *mercury*. Of course, my strictures are directed not so much against its exhibition as a purgative or alterative, though even here it is *dangerous to the deaf*, but when given to its *specific effect*. From watching the progress of many cases, and from the analogy of the symptoms produced by mercurialization, with those affecting the guttural and aural mucous membrane in influenza, dyspepsia, and the exanthemata, I believe mercury, like them, injures the sense of hearing through the medium of the mucous surfaces. Long after the salivary glands have ceased to be affected, an erythematous state of the throat and fauces remains, often by its persistence affecting the Eustachian tube and tympanum in the manner I have described when chronic catarrh has been the exciting cause.”

Mr. Yearsley argues with Kramer on the advantage and necessity of catheterism both in diagnosis and treatment.

—Dr. James Bryan, of the Academy of Medicine, Castleton, U.S., has communicated some very sensible observations on the erroneous principles which have led to a neglect of purulent discharges from the ears. The considerations which have led to non-interference in these cases are—1st, that such discharges act as a diverticulum of nature, which it is dangerous to interfere with; 2dly, they very frequently heal of themselves, leaving no great derangement of the organ. Dr. Bryan points very forcibly to the evils of the prolongation of this disease; he describes the pathological appearances presented, his experience fully confirming that of the British and German surgeons quoted in the present and former Volumes of the “Abstract.” Dr. Bryan states that the practitioner is not justified in allowing a discharge to continue *a single day in any case*, without appropriate remedies, but, on the contrary, he should be as anxious to arrest it as if it were a purulent ophthalmia, or any other inflammatory affection of the eyes.‡

* Deafness Practically Illustrated; being an Exposition of Original Views as to the Causes and Treatment of Diseases of the Ear.

† London Medical Gazette, Dec. 1847, p. 1017.

‡ Medical Examiner, Sept. 1847, p. 523.

OPHTHALMIC SURGERY.

(Continued from Vol. VI. p. 242.)

§ XI.—Operations for Artificial Pupil.

Following the anatomical classification adopted by Professor Desmarres, according to the plan laid down in the first part of this Report (Vol. VI. p. 213), we now proceed to supply the omissions then made.

The subject of artificial pupil occupies 53 pages in Dr. Desmarres' work; five processes are enumerated, as follows; the first four of which have been modified in a thousand different ways. 1. Iridotomy (*incision, Cheselden's operation*). 2. Iridodialysis (*separation, Coreodialysis*). 3. Iridectomy (*excision, Corectomia, Wenzel's operation*). 4. Corectopia (method of Adams, Himly, and Guépin, by *incision or distension*). 5. Dilaceration (*Desmarres' method*).^{*} Mr. Jones describes three principal modes—incision, excision, separation.[†]

33. *Dr. Desmarres' method of dilaceration* is proposed as a substitute for the process of separation, applicable only to the cases of complete anterior or posterior synechia, separation at the ciliary ring being frequently followed by severe accident. He considered that there might not be more inconvenience in breaking the adhesions between the iris and the cornea, or the iris and the capsule, than in breaking down the ciliary attachments of the diaphragm, and practice having demonstrated that good results may be obtained in that way, he frequently substitutes his own method for that of Iridodialysis.

1st. He punctures the cornea with a lance-shaped knife, straight or curved, according as he operates upon the internal or external edge of the cornea. 2d. A pair of curved forceps being held with their convexity forwards are introduced into the anterior chamber; closed, and pushed forwards to the place where the iris has contracted adhesions with the cornea or capsule, the branches are immediately opened to the full extent that the wound of the cornea permits, and exercising a slight pressure from before backwards upon the iris, the latter is seized by the instrument. The portions of the iris comprised between the extremity of the forceps and the morbid adhesion bend and form into folds, when, by a rather brisk traction, he draws the forceps towards him, separates the iris from its adhesions, and immediately recognises, by its black colour, the bottom of the eye. As soon as the adhesions of the iris are broken, even to the smallest extent, the portion laid hold of is easily drawn outwards; the artificial pupil which results, takes a triangular or quadrilateral form. 3d. The iris held by the forceps should be brought through the corneal incision, and exercised with the curved scissors as near as possible to its ciliary attachment, as in the third stage of ordinary excision. If the defective method of corectopia or distension be preferred, the iris must be left in the corneal wound.[‡]

34. *A Modification of Iridectomy (Wenzel's operation)* has been recommended by M. Stæber. When the pupillary border of the iris is adherent through its whole extent to the opaque capsule of the lens, which is generally produced by chronic inflammation of the iris and of the capsule of the lens, the only efficacious means, he states, of giving sight, consists in extracting the lens and excising a portion of the iris. This is done in Wenzel's operation; which consists in cutting out at the same time a semicircular flap, both of the cornea and of the iris, then extracting the lens, then laying hold of the flap of the iris, and excising it. But the last part of this operation is frequently difficult, the surgeon may even be obliged to give up the operation, because the cornea, the iris, and the capsule of the lens being incised together, a part of the vitreous humour frequently escapes by the wound made in these membranes.

To remedy this inconvenience, M. Stæber suggests the following modification, which he has already adopted in the living subject. In the first place, he cuts out a flap of the cornea, as in extraction, leaving the iris intact. Secondly, he

^{*} Lib. cit., p. 432.[†] Lib. cit., p. 293.[‡] Lib. cit., p. 474.

makes an opening in the iris sufficient to serve for a pupil and for the passage of the lens. For this purpose he thrusts a small hook into the iris, towards the middle of the space comprised between the ciliary and pupillary borders; he raises the iris by drawing lightly on the crochet, and excises with curved scissors, on their flat surface, the portion raised by the hook. He tries to include in this excision as large a portion of the iris as possible. Immediately afterwards the lens escapes; for in excising the iris the capsule is opened, at least in those cases where the pupillary border of the iris adheres to this capsule. The operation being terminated, the eye is immediately closed, and there is no fear of the escape of the vitreous humour.*

—*Drilling* is another plan for restoring an obliterated pupil, described in the works before us.† The late Mr. Tyrrell recommended a modification of division by corneal puncturation, which he designated by this title. He passed a very fine straight needle, of uniform thickness, somewhat obliquely through the cornea at the outer part, and then directing the point towards the anterior capsule of the lens, close to the inner margin of the pupil (taking care not to injure the iris), and causing the instrument to penetrate the capsule, and enter the substance of the lens, to the extent of about one-sixteenth of an inch, he rotated the handle of the needle between the forefinger and thumb, so as to make the point act as a drill, and then withdrew the needle. An opening was thus secured more free than would be effected by a simple puncture.

He usually had to repeat this operation seven or eight times, at intervals of from three to five weeks, taking care to puncture the opaque capsule in a fresh place at each operation, before the pupil was cleared. The operation in no instance produced inflammation of any consequence, and did not confine the patient for more than two or three days.

In a few instances it was necessary to make an artificial pupil subsequently, by incision with Mannoï's scissors.

—Mr. W. R. Beaumont has described a kind of *forceps* for *seizing the iris* and detaching its ciliary margin from the corpus ciliosa, or for drawing any portion of the iris through a wound in the cornea. He found, on the dead subject, that the simple fine hook sometimes tears its way out of the iris instead of detaching it, whereas, with his own forceps, neither on the dead or the living subject, did this laceration without detachment take place; nor did he fail, in any instance, in seizing the iris, at the first attempt, close to its ciliary margin. The forceps are bent, the point where the blades are closed are perfectly smooth, the teeth being there concealed, so that the instrument may be introduced into the anterior chamber, without risk of wounding any other part than that portion of the iris which it is the operator's intention to seize; they are introduced closed through the wound in the cornea, and should not be opened until the points reach the ciliary margin, or that part of the iris which it is intended to seize; the point should then be pressed gently against the iris, and the blades closed by the thumb and under finger, when they cannot fail to seize the iris, and hold it with sufficient firmness for the completion of the operation. A plate of the instrument accompanies the paper.‡

—The following is an abstract of the *general rules* laid down by Professor Desmarres relative to the operation of artificial pupil.

The operation is indicated when one of the eyes having been destroyed, the other is affected with a complete, or nearly a complete, occlusion of the pupil by false membranes (*synchia posterior*). When the occlusion is complete, *excision*, *separation*, or *dilaceration* may be resorted to. When the occlusion is incomplete, *excision* and, in some instances, *distension* is applicable. The operation is indicated also when the pupil is completely, or nearly completely, obliterated by a *synchia anterior*. *Dilaceration* is applicable in complete cases; *excision* when only a small portion of the pupil has been preserved, or, in the latter case, *distension* may be employed. An artificial pupil is also indicated when there is a central speck of the cornea; *excision* is the operation to be preferred in this case. The operation is

* Gazette Médicale, 10 Avril, p. 279.

† Jones, p. 289; also Brett on Cataract, Artificial Pupil, &c., p. 73.

‡ London Medical Gazette, March 1847, p. 502.

indicated, lastly, when a large solution of the cornea is imminent from ulceration, there being danger that the natural pupil will be destroyed altogether, *excision* and *dilation* being in such cases the processes to be resorted to. An operation is also sometimes required for blindness from the persistence of the pupillary membrane, in atresia pupillaris, in opaque and transparent staphyloma, and owing to the existence, as from syphilis, of false membranes, which diminish or obliterate the pupil.

A. *In general when the patient sees with one eye, the operation for an artificial pupil is considered as contraindicated*; but there is great exaggeration in the fears entertained upon this subject. Mr. Jones lays it down as a principle, that an operation is not to be thought of, unless the patient has lost all useful vision with both eyes.* According to Dr. Desmarres' personal experience, the operation may be performed without risk when one eye is *sound*, particularly under certain conditions; far from a negative result, owing to a disturbance of the vision (*diplopia*), a certain improvement of the sight takes place. Desmarres has done the operation six times in one year, without a patient having once had to repent it. The indispensable conditions when one eye is sound are, that the natural pupil is wholly or in part obscured by a leucoma; that it has been only incompletely destroyed by anterior or posterior synechia; that the internal edge of the cornea remains transparent. In every case wherein an artificial pupil is established on the internal side of the eye, the optic parallelism may be preserved, and vision will be improved when both eyes are open.

B. *Should an operation be performed upon an eye which allows a patient to walk alone?*—This may be answered negatively or affirmatively. If nearly the whole cornea be diseased, it is evident that no experiment ought to be made; but when the cornea is transparent over a great part of its surface, the pupil very small, and the iris healthy, an artificial pupil is indicated. To refuse to operate in such a case is, in Dr. Desmarres' opinion, to merit the reproach of timidity—excision or distension are indicated.

C. *The eye to be operated upon should not exhibit any trace of the inflammation which has produced the occlusion of the pupil.*—The operation should not be done until a long time after the inflammation has subsided. It should be deferred if any serious affection of the eyelids, as ectropium, obstinate trichiasis, &c., exist; when the conjunctiva is granulated or varicose; in confirmed atrophy of the bulb; in hydrophthalmia, and in very old synchysis complicated with occlusion of the pupil by false membranes.

D. *The cornea should be transparent over a sufficient extent.*—This must have reference to the subsequent loss of substance in the iris. Without this condition, the result of the operation would be neutralized.

E. *When thick plastic exudations have closed the pupil, and the occlusion is complete, is an operation indicated?*—It is seldom that the crystalline apparatus is not affected; the opacity is sometimes confined to the capsule, and at others extended to the lens. The operation is not contraindicated, the cataract may be destroyed at the same sitting, immediately after the artificial opening has been made, or at some more distant period, if anything should prevent its being then proceeded with.

F. *Before an artificial pupil is made, the state of the retina must be ascertained.*—It is of the first importance to know whether the retina remains sound, and that there be not an amaurosis besides the occlusion of the pupil. It should not be forgotten, however, that although one may lay it down as a principle in general, that the patient should distinguish day from night, there are exceptions wherein the eye does not perceive a ray of light, and yet the patient is not amaurotic. Numerous observations have put this fact beyond doubt, and patients before now, in these sad circumstances, have recovered their sight by an artificial pupil. Besides the false pupillary membrane, they have been affected with a soft cataract, which intercepted the rays of light.

G. *The iris should be the great object of attention.*—When it is of a dirty colour, or of a reddish-green tint, its fibres having lost their normal aspect, it may be expected to tear under the use of instruments, and other formidable inconveniences result, compromising the success of the operation.

* Lib. cit., p. 294.

H. *If a patient presents in one eye an occlusion of the pupil, and on the other a simple cataract, the latter should be operated upon, the chances of success being greater.*—Still, if vision be interfered with by a central leucoma, or by an incomplete anterior or posterior synechia, and it appears to be possible to replace the pupil by excision or permanent distension on the internal side, it would be better to do this operation than that for cataract, especially if the lenticular opacity is not complete.

I. *The age of the patient should be considered.*—Some have recommended that an artificial pupil should not be attempted before puberty, others have fixed the period at from six to eight years. There is no reasonable motive to deprive an infant of the chances of the operation during so long a period, if there be no general complication to prevent its performance.

J. *General complications must be considered ; such as pregnancy, the climacteric period, the existence of any constitutional disease, or of any specific affection, as syphilis, and of epidemics,*—the operation should in these cases be averted. When the iris is disorganized under the influence of syphilis, the chances of the success of an artificial pupil are singularly diminished.

K. *An artificial pupil should, in general, be larger than a natural one.*—It should be nearly equal in size to the natural pupil in the evening by a moderate light ; still there are cases in which a very small opening suffices for vision. If, on the other hand, too great a portion of the iris be removed, the patient will find himself under conditions analogous to those which attend mydriasis.

L. *Place in which an artificial pupil should be made.*—This should be as near the centre as circumstances will allow ; but obstacles generally exist to its being placed there, and it frequently becomes necessary to open the iris, at some part of its circumference. When this is the case, authors disagree very much as to the best situation. Tyrrel, Mannoir, and others, advise the temporal edge ; Jæger, Sanson, Mackenzie, prefer the internal edge. Desmarres believes that the internal angle should be preferred, then the lower, then the external inferior. If an artificial pupil is to be made in both eyes, he remarks, it should not be done on the temporal side, which would give a disagreeable appearance, and cause diplopia ; but, if the state of the parts will permit,—1, inwards ; 2, inwards and downwards ; 3, downwards ; 4, upwards ; 5, within in one eye, without in the other, taking care that the parallelism of the two optic axes is possible.

M. M. Tavnigot has furnished the Academy with a case of artificial pupil, successfully made, notwithstanding the absence of the anterior chamber of the eye. He maintains that the adhesion of the iris to the cornea is by no means a contraindication to the formation of an artificial pupil. A woman, 57 years of age, had been operated upon for cataract by extraction unsuccessfully, the cornea maintained its usual convexity, its inferior half being opaque, its superior half perfectly diaphanous. The iris appeared to adhere closely to the opaque portion, and to be in apposition with the other portion. Accordingly, the anterior chamber no longer existed. That portion of the iris which could be seen appeared to be unaltered in colour and texture. The pupil, contracted to a pin's head point, was obliterated by a grayish-white false membrane. Vision was completely destroyed, the patient barely distinguishing day from night, as the other eye was destroyed. An artificial pupil was made at the superior and external part of the iris by excision ; no accident occurred, the blood effused was rapidly absorbed, the new pupil was of an oval shape, its great diameter directed from above downwards, and from without inwards ; it was large enough to lodge a pea ; its internal half was obliterated by the anterior capsule of the lens, became opaque and adherent to the iris after the operation for cataract ; but its external half remained free and sufficient for the exercise of vision.*

36. *Corectopia, or altered position of the pupil*—usually accompanied by irregularity of its form, is, according to M. Duval,† almost always accidental, sometimes associated with synechia posterior ; more frequently after extraction of a cataract, for example, with synechia anterior, followed by a staphyloma of the iris. In one case, the globe of the eye was penetrated by a knife through the sclerótica, six millimetres from the edge of the cornea, towards the greater angle ; hernia of the choroid coat occurred through the wound, and the iris was drawn towards it, so

* *Gaz. Med.*, Nov. 27, 1847, p. 953.

† *Ibid.*, 20 Mars, 1847.

that the pupil was elongated transversely into an angle contiguous to the corneal limb. It is in this way that staphyloma of the choroid in *circsophthalmia*, some glaucomas, &c., are almost always accompanied with displacement of the pupil towards the sclerotic tumours. Corectopia constitutes again an ingenious mode of eoremorphosis imagined by Adams. Where the pupil is free, and the centre of the cornea is occupied by a leucoma, Adams proposed a small opening in the corneal tunic, not far from its limb, and the introduction of delicate forceps for the purpose of hooking the iris, and uniting it to the wound in the cornea. This is the *permanent distension of the pupil*, so denominated by Guépin, the fourth mode of forming an artificial pupil, referred to at the commencement of this article; its object is to draw the pupil to the edge of the leucoma. Many inconveniences attend this operation, which is justly abandoned.

Eccentricity of the pupil as a primary organic effect is very rare. In many thousand cases M. Duval has met with it but once.

§ XII.—Diseases of the Capsule.

37. *Capsulitis*.—This affection is for the most part chronic, rarely acute. It is seated particularly in the anterior surface of the capsule; it accompanies other inflammatory affections of the membranes, and is especially associated with iritis, in its first degree, and punctuated corneitis, and is frequently an *aquo-capsulitis*. It is characterised by a bluish cloud at the bottom of the pupil, at first not easily recognised, but gradually increasing, and as it progresses, the iris becomes involved, adhesions taking place between it and the capsule, constituting *posterior synechia*. After the affection has continued some time, remarkable vascular ramifications traverse the membrane, and plastic and fibrous deposits take place. There is no pain in capsulitis, only a sense of tension and compression in the globe or bottom of the orbit, augmented under the influence of light. Its terminations are resolution, occasionally suppuration, synechia, several varieties of cataract, and complete or incomplete obliteration of the pupil. The anatomical and physiological symptoms are given minutely by Prof. Desmarres, and the treatment is antiphlogistic, the indications being the same as in iritis. When the posterior surface of the iris and the anterior wall of the capsule is the seat of the disease, the term *uveitis* is employed by Jones* and other authors.

38. *Ossification of the Capsule*.—This is not so rare a disease as might be supposed; the lens is sometimes atrophied, and sometimes ossified also. Cases are recorded by Gibson, Wardrop, and especially by Middlemore.

§ XIII.—Diseases of the Crystalline Lens.

These are—1st, *luxation*; 2d, *ossification*; 3d, *lentitis*; 4th, *cataract*. Dr. Desmarres holds that the lens itself is subject to inflammatory action, as indicated by its opacity after injuries. He remarks that the contact of the aqueous humour, when the capsule has been injured, is not alone sufficient to account for this opacity. He has known a lens remain transparent for two months in the anterior chamber; and Cammerer describes a case in which, under similar circumstances, it remained transparent two years. Jones remarks that the lens itself may become opaque, dissolved, and even the seat of suppuration, and that vessels have been observed shooting into it from the inflamed capsule.†

39. *Regeneration of the Lens*.—Mr. Jones states that Pauli, Lowenhardt, and Textor have repeated the experiments on regeneration of the lens in animals with success. Textor communicates some new cases of regeneration of the lens in man, after operations for cataract. The proof that the newly-formed substance possesses the same intimate structure as the lens has at last been supplied by Valentin's microscopical investigation of the subject.‡

40. *Cataract—classification of its varieties*.—Since the time of Beer, cataracts have been divided into *true* and *false*. Dr. Desmarres adheres to this division, which does not appear to be attended with the inconveniences which some authors imagine. Among the true cataracts are arranged those which have their seat in

* Lib. cit., p. 86.

† Ibid., p. 88.

‡ Ibid.

the lens, or its capsule, separately or simultaneously; among the false cataracts are placed *opacities* seated in the pupil, and produced by the organization of a fibrinous, purulent, or sanguineous material. Here also is placed the *pigmentous* or *uveal* cataract. It has been said that a false cataract is no cataract at all; but this, Dr. Desmarres remarks, is evidently only an affair of words, since, in effect, the opacity is seated in the pupil, and prevents vision.

CLASS I.—TRUE CATARACTS.

	Hard	Green. Black. Osseous. Stony, or chalky. Striated, etiolated, barred, dehiscent, with 3 branches, &c. Disseminated, or dotted.
a. Lenticular cataracts	Soft	Congenital. Traumatic. Glaucomatose.
	Liquid	Morgagnien, or interstitial. Cystic, purulent, fetid.
	Other varieties—soft, hard, or liquid	Shaking, or floating cataract. Luxated cataract.
b. Capsular cataracts	Anterior	Pyramidal, or vegetant.
	Posterior	Arid siliquose.
c. Capsulo-lenticular cataracts		All the varieties of lenticular and capsular cataracts.
d. Secondary cataracts		Lenticular. Capsular. Capsulo-lenticular.

CLASS II.—FALSE CATARACTS.

Fibrinous cataracts.
 Purulent cataracts.
 Sanguineous cataracts.
 Pigmentous cataracts.

This arrangement has all the advantages of a classification according to the seat of the affection, and it also indicates the different degrees of density which the lens presents. The arrangement adopted by Mr. Jones is essentially the same.*

The article "Cataract" occupies 170 pages, so that we cannot be expected to do more than allude to a few of the more important points. The disease is defined "*a total or partial opacity of the crystalline apparatus.*" After describing the anatomical and physiological symptoms, the causes, predisposing and occasional, the progress and prognostics of cataracts in general, Dr. Desmarres proceeds to treat of the classes and varieties seriatim.

The character, as remarked by the author before us, which is of the most importance to distinguish the species of *lenticular cataract* is consistence, which has also reference to the kind of operation for their cure; but since this consistence cannot be ascertained in a direct manner before an operation, the strictest attention must be paid to the history and symptoms of all the varieties. Dr. Desmarres gives the following:—

* Manual, p. 227.

Differential Characters of Lenticular Cataracts.

HAED.	SOFT.	LIQUID.
<i>Opacity</i> advancing from the centre of the lens to the surface. <i>Spot</i> gray, green or black as an exception. <i>Circumference</i> of the lens always maintaining a little transparency.	<i>Opacity</i> advancing from the surface to the centre. <i>Striæ</i> white or amber, frequently uniting in the middle of the lens, which they divide into a great many triangles. <i>Spot</i> sometimes uniform, milky, or of a caseous appearance. <i>Circumference</i> always opaque.	<i>Opacity</i> advancing from the surface to the centre, and increasing by successive deposits during the repose of the eye. <i>Spot</i> uniform, yellowish-gray, when the eye is in motion. <i>Circumference</i> always opaque.
<i>Volume</i> very small.	<i>Volume</i> very large.	<i>Volume</i> very large.
<i>Shadow</i> large.	<i>Shadow</i> , none.	<i>Shadow</i> , none.
<i>Posterior chamber</i> very large. <i>Uvean circle</i> scarcely visible. <i>Anterior chamber</i> normal.	<i>Posterior chamber</i> destroyed. <i>Uvean circle</i> very large, and very perceptible. <i>Anterior chamber</i> diminished.	<i>Idem</i> .
<i>Vision</i> improved in a moderate light, scarcely ever absolutely abolished.	<i>Vision</i> always abolished. <i>Sensation of the light</i> very often obtuse.	<i>Vision</i> always abolished. <i>Sensation of the light</i> obtuse.
<i>Progress</i> very slow and equal.	<i>Progress</i> slow, generally very unequal; sometimes very rapid.	<i>Progress</i> very slow and equal; rapid only when dissolution is advanced.

It is now generally admitted, that a capsular cataract, independent of lenticular cataract, may exist, although it is much more rare than is generally believed.

Differential Characters of Lenticular and Complete Capsular Cataracts.

LENTICULAR.	CAPSULAR.
<i>Opacity</i> proceeding from the centre to the surface of the lens, or inversely, without having been preceded by any inflammation.	<i>Opacity</i> extending itself to the surface of the crystalline apparatus, and being always preceded by inflammation.
<i>Spot</i> gray, green, black, white, or amber, frequently permeated by striæ, which all converge towards the middle of the lens, perfectly smooth at its surface, even when these are numerous. In liquid cataracts, the striæ are transverse when the eye is at rest. The lenticular cataract involves by degrees the whole lens.	<i>Spot</i> always of a dull white, chalk colour, formed of rugose plates united together, without order, and presenting asperities, which project from the surface of the membrane. No regular striæ. The capsular cataract remains stationary and limited if the inflammation subsides.
<i>Volume</i> very large or very small. <i>Form</i> always convex.	<i>Volume</i> small. <i>Form</i> flattened.
<i>Iris</i> , mobile or immobile, without adhesion, sometimes projecting forwards; or, as an exception, oscillating (<i>cat. liquid</i>).	<i>Iris</i> rarely mobile, frequently adherent and drawn backwards; never oscillating.
<i>Shadow</i> large, or none.	<i>Shadow</i> none, when there are adhesions.
<i>Vision</i> abolished completely, or improved in a moderate light. <i>Sensation</i> sometimes obtuse in the day; mostly distinct.	<i>Idem</i> .

41. *Treatment of Cataract.*—This is divided into *medical* and *surgical*. Professor Desmarres agrees with all his predecessors who have treated the matter honestly, that a fully-formed or advanced lenticular cataract, is absolutely incurable by *medical treatment*. The question of the practicability of such a cure, can only arise in certain varieties of capsular cataract, and in some exceptional cases of traumatic lenticular cataract. In explanation of the cases in which a lenticular cataract has disappeared spontaneously, and the patient has recovered his sight, Dr. Desmarres refers to the rupture of the capsule in consequence of a blow or violent effort.—If the capsule is ruptured by any force, the lens, submitted to the action of the aqueous humour, becomes absorbed. The reported cures have generally been errors in diagnosis. When, however, a *traumatic lenticular cataract* is *incomplete*, it may sometimes be cured by energetic antiphlogistics; and by the same treatment, *capsular cataracts* may also be frequently cured. M. Pugliatti, professor of surgery at Messina, announced that he had cured a great many incipient cataracts, and soft cataracts more completely formed, by a treatment, continued for about three months, consisting of the repeated application of liquid ammonia to the tem-

ples, and the internal use of iodide of potassium. The ammonia was applied by first blistering the surface, then soaking a pledget of linen, several times folded, in the liquid, and placing it upon the blistered part, and covering the whole with a convex glass. M. Pugliatti believes that the ammonia penetrates the tissues, and acts directly upon the lens. We need scarcely say that this imbibition through the integuments of the living body remains to be proved; but the author states that the cataract is first reduced to a sort of cloud, and then disappears; that he has cured every species—spontaneous and traumatic, old and recent; but that, in many cases, the treatment fails.* Dr. Desmarres recites three of this gentleman's cases, but adheres to the conclusion which we have already enunciated.

42. A *congenital cataract* of one eye, the consequence of the persistence of the pupillary membrane of Wachendorf, *cured without an operation*, has been described by M. Paul Bernard. The possibility of this, he remarks, has been denied. The case occurred in a child six weeks old, born with a complete occlusion of the pupil of the left eye. The obstructing membrane was of a slightly grayish-white colour, and of extremely fine texture, resembling a spider's web; it was placed more in advance than the capsule of the lens, and the iris, exposed to the brightest light, was quite immovable. The two latter circumstances, although of considerable value, are regarded by M. Bernard as insufficient to establish an accurate diagnosis, since a capsular cataract may project from being distended with fluid; and by pressure all round the edge of the pupil, or by adhesions produced by this pressure, the action of the iris may be totally prevented. But on examination with a glass, a very small solution of continuity was observed in the centre of the obstructing membrane, nearly round, and with a black basis. On the sides of this minute aperture vessels were observed, ranged in arches, in every respect resembling those described by M. Cloquet on the pupillary membrane. The cataract was evidently produced by the remains of the membrane of Wachendorf.

Under these circumstances an operation was deemed unnecessary and dangerous. Friction of the eye and temple three times daily with belladonna ointment, and half a grain of calomel night and morning, were prescribed; on the following day nearly a third of the circumference of the pupillary membrane was ruptured, and detached from the iris; the pupil was of a deep black colour, and irregular triangular form. On the next day the separation was greater, but had not taken place externally; a little was gained daily for five days, when the pupil became manifestly contractile, without any inflammation; the calomel having been substituted by mercurial ointment to the temple. The treatment was continued for about three weeks, at which period the pupillary edge was free for about nineteen twentieths of its circumference; but at its external edge a slight vascular adhesion existed, which retained what was left of the pupillary membrane. By retraction, or absorption, this membrane was reduced to less than a third of its original size; it now floated in the aqueous humour, and did not in the slightest degree interfere with vision, and it would doubtless be ultimately contracted and absorbed, so as to disappear altogether.

M. Bernard recites the anatomical facts relating to the pupillary membrane, which seem to explain this case, and very justly regards it as a "rare, interesting, and fortunate case."†

43. *Surgical Treatment.*—Very copious *general rules*, by which the ophthalmic surgeon is to be guided in advising a patient as to the operation for cataract, are laid down by all the authors before us. In a comprehensive paper by Dr. A. Watson, a summary of these rules is given as follows:‡

An operation is proper in cases of cataract.—When the patient is blind, either from a complete cataract in both eyes, or in one eye, while the sight of the other is wanting. But there are cases of cataract in which only one eye is affected, and even in it the disease may be only partial, while perfect vision remains with the other; so that it is a question whether or not an operation should be performed.

In the cases of elderly persons, whose occupations do not require much exertion

* Annali Universali di Medicina.

† Gazette Médicale, 10 Oct., 1846, p. 798.

‡ Edin. Med. and Surg. Journal, April 1846. Historical and Critical Remarks on the Operations for the Cure of Cataract, by Alexander Watson, M. D., F. R. S. C. E.

of their sight, and are therefore contented with that of one eye, an operation is scarcely necessary, when only one eye is affected with cataract.

In young persons, however, it is of much importance to possess the vision of both eyes, on account of the greater exertion of them required, and the liability to be deprived of the sight of the other eye by injury or disease, when one eye is affected with cataract. It is, therefore, proper in such cases to restore the sight, where one eye has become blind from cataract, just as we would operate on the left eye of an individual, after having restored the sight of the right. By operating in these cases without delay, the sensibility of the eye has not become impaired by disease. Besides, the deformity which the blind condition of one eye occasions is obviated, which, especially in females, is of very great consequence. But the risk of a collapsed eye, by an unsuccessful extraction, should be avoided. It is improper to operate till the cataract is so far advanced as to deprive the individual of useful vision. Hence, partial or imperfect cataracts, by which the sight is not much impeded, do not require operation.

Both eyes, if affected with cataract, should be operated on at the same time.—The greatest names in surgery are ranged for and against this proposition. Dr. Watson states, if the patient is in a favourable state of health for it, and if the operations are to be performed with the needle, by adopting this course, the patient is subjected to only one period of anxiety and confinement, which are circumstances of importance to all, but more especially to those who are delicate, or much advanced in life. If, however, the patient does not seem, from his constitution, to be in a very favourable state for an operation—if the weakening effects of after-treatment upon a feeble frame be dreaded—or if the operation to be performed is that of extraction, only one eye should be operated on at first, and the other some time afterwards. This mode of procedure subjects the patient to less risk, and we obtain the benefit of the experience afforded by the progress of his case to guide us in the treatment of the second operation. Moreover, the treatment to which the patient is subjected, after the first operation, generally forms a very excellent preparation for the second, as we almost invariably see much less inflammation follow a second operation, either on the same eye or on the other, than occurred after the first. Dr. Desmarres maintains strongly that when the double cataract is complete, we should, in general, operate upon both eyes on the same day.*

The age of the patient should influence the surgeon in operations for cataract.—This disease affects patients of all ages—infancy, youth, manhood, and old age.

In cases of congenital cataract, the importance of early operation is now completely established. It should be done after the infant is three months old, and before the period of dentition; but if delayed till dentition has commenced, an interval should be selected for the purpose after the appearance of some of the teeth. Dr. Desmarres says at twelve, fifteen, or eighteen months old.

In infancy and youth, operations for cataract generally produce less inflammation, and are more successful than in more advanced life. They should, therefore, never be delayed on account of the youth of the patient.

In manhood and more advanced life, inflammation is more apt to follow operations for cataract than either in infancy, youth, or old age; and hence greater precaution is necessary in the preparation of the patient, and more activity in the after-treatment. Banister mentions his having couched successfully the cataract of a lady aged 83 years, after having been blind of that eye 43 years; in another person of 98 years, the eye having been 18 years blind.

Pellier, in 1779, operated on a gentleman aged 84 years, who recovered his sight in 20 days. The operation was accomplished in 17 seconds.

Mr. Lawrence states, that he operated by extraction on a late member of the profession, aged 92, with the most perfect success.

Dr. Watson lately operated successfully on a lady, aged 86. She was not confined to bed after the operation, and no inflammation was produced by it.

This question must be decided not altogether by the amount of years which the patient may have seen; but also partly by the vigour and health he may enjoy, for these do not always depend on age. Although very advanced age does not

* Liber citatus, p. 554.

forbid an operation, it should be a reason for selecting that which is most simple, and least likely to affect the general health by confinement and after treatment.

As to the operation which is to be preferred in cases of cataract.—Our more complete knowledge of this subject has now established the principle, that no surgeon can treat this disease properly who confines himself to the performance of one operation; but as the differences in the nature of the disease and circumstances of the patient require different modes of operating, so the surgeon must select that operation which is best suited to the individual case under his care. The data upon which a choice is to be made, consist of these—the nature of the cataract, and the condition of the patient.

1st. *Fluid and soft cataracts* form the cases of most easy and successful operation, by solution performed with the needle. They occur generally in young subjects; and they neither require, nor properly admit of, any other mode of operating.

2d. *Firm and solid cataracts* generally occur in persons of middle or more advanced age; and they form the only class of cases in which any question occurs as to the proper and best mode of operation. They admit of being removed either by extraction from, or by displacement within, the eye; so this brings us to the question as to the merits of, and objections to, these operations.

Although in all the cases of this class the operation of displacement might be successfully performed, in many of them that of extraction is inadmissible. The number of cases, therefore, in which extraction might be performed, is brought within narrow limits. They consist of patients affected with solid cataracts, uncomplicated with any other disease of the eye,—the patient having at the same time a good constitution, a calm mind, not irritable and restless, and his eye well formed, of proper size, and neither too prominent nor too much sunk in the orbit. To these must be added, that the patient should be favourably situated for quietness, care, and attentive nursing.

Another circumstance to be considered and kept in view in deciding upon which operation is best, regards the operator. In a case equally suitable for either extraction or depression, a decision as to the one most desirable will depend very much on who is to be the operator. Does he devote particular attention to these operations, and has he performed them equally well and successfully? If he does, certainly extraction is the most perfect operation; but if not, the depression is the safest.

A great proportion of the cases of solid and hard cataract, now under consideration, admits only of operation by displacement.

Although all cases of solid hard cataract may be cured by displacement by the needle, a great many of the cases admit of this mode of operating solely. Hence an operator might dispense with the operation of extraction, but not with that of displacement. The cases in which the cataract must of necessity be removed with the needle, are those in which the patient has an unsound or delicate constitution, has any unusually inflammatory diathesis, or is very far advanced in life,—having the eye small, unusually prominent or sunk in the head, or the cataract complicated with other diseases of the eye, as partial opacity of the cornea, adhesions of the iris, contraction of the pupil, or disorganized state of the vitreous humour.

3d. *Capular cataracts*, whether primary or secondary, admit only of removal with the needle.

The season of the year is of importance in operations for cataract.—In Europe it has been generally remarked that spring and autumn are preferable seasons of the year for the performance of operations for cataract. So far as Dr. Watson's experience testifies, he cannot say that he has seen cause for attaching much importance to this circumstance, and, with one exception, Dr. Desmarres makes the same remark. Dr. Watson has seen and performed many operations for cataract at all seasons, both successfully and unsuccessfully, and he does not recollect to have attributed any of these events to the season of the year. At the same time, he has no doubt that in other countries, where the colds of winter are more intense, and the heat of summer is greater than in this, or where the inhabitants at these seasons are subject to endemic diseases, the recovery from such operations may be so much influenced, that it is safe and proper to avoid their performance at

those times. Dr. Desmarres considers the operation should not be performed during excessive heat.*

The preparation and after-treatment necessary in cases of operation for cataract are not of less importance than the proper performance of the operation. Indeed, without great attention, both to the previous preparation of the patient and his after-treatment, the most perfect operations for cataract may prove unsuccessful. Much more of the success of these operations depends on them than is commonly imagined. They consist in attention to many minute particulars, which individually do not seem to be of much consequence; and hence their importance is often underrated. But when taken together, they constitute a form of treatment which has a powerful effect upon the system, and is in most cases indispensable to a favourable result.

1st. In order to prepare a patient for undergoing an operation for cataract with success, the functions of the body, including the circulation, digestion, and nervous system, should be tranquillized as much as possible by moderate diet, rest of body and mind, and such medicines as may be required to restore and promote healthy functions. After such a preparation as this, Dr. Watson has performed each of the different operations successfully, without their being followed by the slightest pain or inflammation of the eye. But without some preparation of this kind he has seldom seen the recovery from operations prove satisfactory.

2d. Neither can too much attention be paid to the after-treatment. By any of the operations for cataract, the eye is more or less injured; inflammation follows, and if severe, or not speedily checked, this soon proves destructive to so delicate an organ as the eye.

Prevention is always better than attempting to cure inflammation after it has taken place. Hence the importance of previous preparation, and such after-treatment as may prevent the occurrence of inflammation. It is generally too late to apply remedies, after inflammation has come on, to preserve the eye and restore the sight. After operations with the needle, it is seldom that blood-letting is necessary to prevent inflammation. But after extraction, by which more injury is inflicted on the eye, this is in general a proper precaution. In elderly persons an opiate is advisable, as vomiting and other symptoms of collapse are apt to follow, which this may obviate. Rest, in a perfectly darkened room, and the constant application of cloths dipped in acid water, low diet, perfect quietness, and attention to the state of the bowels, form the proper and necessary after-treatment. This treatment requires to be continued for two or three days after operations with the needle, and for eight or ten days after extraction.

If inflammation of the eye supervenes, general and local blood-letting, nauseating doses of tartate of antimony or ipecacuanha, with purgative and sudorific medicines, should be administered with vigour, attention, and care.

Mr. Guthrie's† work appears to have for its objects to describe—1, the diagnostic marks of the various forms of cataract; 2, the appropriate operative procedure for the remedy of each form. So much has been written on the subject of cataract, and most of the circumstances relating to it have been so accurately detailed, that we are by no means surprised to find the author availing himself, in his leading principles, of the recorded experience of the ophthalmic surgeons who have preceded him, including the published opinions of Mr. Guthrie, his father. Nevertheless, the operator will find much in the detail to repay him for perusal, for the work unquestionably embraces a truthful account of the *niceties* of the various operations,‡ as well as a judicious adaptation of each to the particular species which presents itself.

Mr. Guthrie attaches much importance to the appearance and motions of the iris, both as to the nature and treatment of cataract. The contraction and dilatation of the pupil depend on the healthy susceptibility to light of the iris, rather than of the retina; and a due sensibility of the iris generally implies a corresponding state of the retina. There may, however, be an immobile iris dependent on

* Lib. cit., p. 554.

† On Cataract and its Appropriate Treatment, by the Operation adapted to each peculiar Case, 1845.

‡ Ibid., pp. 67, 73, 76, *et passim*.

the form and state of the lens and its capsule; it may remain fixed and dilated, or fixed and contracted, in consequence of adhesions formed between it and the capsule; or it may be fixed and dilated, in consequence of pressure from the lens protruded by the parts behind. When this is the case, it may be suspected from a diminution of the posterior chamber of the aqueous humour, from an irregular appearance of the edge of the iris and of the capsule, and may be proved by dilating the pupil with belladonna. When, on the contrary, the iris is immobile from diminished susceptibility, the posterior chamber is preserved. Where the space of the posterior chamber is entire, especially when combined with a total inability to distinguish light from darkness, it nearly amounts to a prohibition of the operation, which ought on no account to be performed if accompanied with pain and other signs indicating approaching disorganization.*

Professor Desmarres' opinion as to the choice of the operation for cataract may be thus summed up. He prefers, decidedly, extraction as the general method; but admits that it cannot be resorted to indiscriminately. It is necessary to determine, before all things, the nature of the cataract, and the complications which exist; want of this discrimination, upon which to found the choice of an operation, has been a frequent cause of failure.

In *ordinary hard lenticular cataract*, in aged subjects, depression has succeeded best in this surgeon's hands; the wound of the cornea after extraction in these subjects healing with difficulty, and the eye becoming compromised; but when the cataract is *osseous* or *stony*, exciting inflammation by its presence, and complicated with amaurosis, it should always be extracted. *Soft lenticular cataract* requires breaking up or dilaceration of the capsule; the lens, in this case, disappears by degrees, the eye not being compromised for one instant. The *semi-soft* lenticular cataract, including the *striated*, etiolated, barred, dehiscant, three-branched varieties, &c., are liable, after depression, to increase in volume, and to excite inflammation, frequently of great severity; or to reascend to the pupil, constituting secondary lenticular cataract; extraction is the proceeding most applicable to these cases, as also to cases of disseminated cataract. In *congenital* and *traumatic* cataracts, not very large, with a uniform degree of softening, as much advanced at the centre as at the surface, the operation of breaking up should be preferred to extraction. *Liquid lenticular cataract* may be as well extracted as operated upon by the needle: but Professor Desmarres prefers the latter method, since it is unattended with danger, and is almost always successful; scleroticonyxis is generally preferred to keratonyxis. *Capsulo-lenticular cataracts* are almost always complicated with adhesions between the iris and capsule, so that in many cases depression and extraction present, equally, dangers and difficulties. If the eye be well formed, the false membranes few,—if the inflammation has been some time extinguished, depression and extraction are both possible. For either operation the eye must be prepared with belladonna; if depression be chosen, the needle is introduced by the sclerotica, the iris and capsule separated, and the lens with its opaque capsule depressed. But, besides that, sometimes the adhesion cannot be divided, and the pressure on the lens will frequently, if carried too far, dislocate the iris from its normal attachment; the consecutive inflammation is to be dreaded, since the depressed lens in an eye, otherwise abnormal, almost always induces serious accidents. If extraction be preferred, great difficulties may be expected in its execution, requiring much address and patience, and unless the adhesions are very slight, considerable reaction must be expected. If the cataract is entirely adherent to the iris, neither of these operations are possible, and dilaceration of the capsule, through the cornea or sclerotica, is indicated. If it be not at all, or only slightly adherent, the same rules are applicable as in uncomplicated lenticular cataract.

Capsular Cataracts.—When the capsule is inflamed and has become opaque to such an extent as that the pupil has lost its clearness, the affection should be considered in a surgical point of view as a capsulo-lenticular cataract. It signifies little whether the lens is transparent or opaque, when the capsule is so opaque as to prevent the transmission of the rays of light. In all cataracts it is necessary to destroy both the lens and capsule, so that the diagnosis between simple lenticular

* On Cataract, p. 15.

cataract and capsulo-lenticular cataract is of less importance; but in the latter, the operation is always more difficult, in consequence of adhesions, and the result less certain, for the double reason, that inflammation which has rendered the capsule opaque may retard and compromise the operation; and the operation, infinitely more difficult, may occasion some new lesions. For all capsulo-lenticular cataracts in which the lens still exists, Dr. Desmarres refers to what he has said on the choice of the proceedings in capsulo-lenticular cataract. When the lens has been destroyed by any accident or by an operation, the cataract may be regarded as formed by one of the sides, or by the two sides of the membrane, united by traumatic inflammation after the absorption of the lens. The *arid siliqueuse variety* is of this nature. In this, if there are not old and stony adhesions to the iris, depression should be preferred, although extraction by the sclerotica may be equally available. But if it is thought that these adhesions cannot be easily broken up, extraction by the cornea should be preferred, or even extraction by the sclerouca,—operations in which, if we do not wholly extract the false membrane, we may at least separate the greater part. We may still make a choice between the two latter operations; if the capsular opacity is very thick, very adherent to the iris, especially on its internal side, we are very guarded as to sclerotic extraction, since the false membrane may not be separated from the iris, and extracted, without producing dislocation of this diaphragm. If, in such a case, on the contrary, the cornea is opened at its inferior edge, the puncture being nearer the point of adhesion than in operating through the sclerotica, a large portion of the opacity may be withdrawn and excised, and the pupil re-established, without fear of rupturing by too violent traction the natural attachments of the diaphragm. If the opacity is more strongly adherent upon the external side, it would be possible, but not preferable, to operate by the sclerotica; the false membrane, by the position which it occupies, being then sufficiently close to the point of puncture, that it may in great part be excised if the adhesion cannot be broken by the simple traction of the forceps.

If capsular cataract occurs as a consequence of an operation for lenticular cataract, care must be taken, whatever the process determined upon, not to wait too long, so that the adhesions between the capsule and iris may not become too strong, a circumstance which may prevent the surgeon extracting or depressing the false membrane, and at all events would embarrass the operation. In the rare case, where the capsular cataract floats free before the pupil, it is sufficient to open the cornea, as in the operation of artificial pupil, when the false membrane is easily extracted with the forceps.

Professor Desmarres remarks, more generally, depression should not be resorted to if the patient has suffered for a long time from congestive amblyopia, since the lens remaining in the eye may prove a new cause of the affection of the retina; nor should it be chosen if there are any traces of the effects of old internal ophthalmia, as dislocation of the iris, numerous posterior synechias or incipient staphyloma of the sclerotica. Extraction should also be preferred if the patient is liable to ocular neuralgia, especially if associated with any affection of the choroid, ciliary body, &c. On the other hand, extraction by the cornea should be rejected if any of the following conditions exist:—1st, the eye being too small; 2d, the eye being too projecting; 3d, softening of the vitreous humour; 4th, the anterior chamber destroyed; 5th, cataract, complicated with partial anterior synechia; 6th, granular eyelids and diseases of the lachrymal sac; 7th, a morbid condition of the general health, or complications which prevent the patient remaining at rest.

The various modifications of the operation for removal of the lens without extraction are thus enumerated: 1st, the lens is plunged into the inferior part of the globe by depressing it directly from above downwards (*direct depression, or couching*), or by forcing it downwards, and at the same time turning it backwards (*reclination*); 2d, the lens is broken up into as many parts as its density will allow of (breaking up); 3d, the lens is subjected to the action of the aqueous humours by depriving it of its capsule (dilaceration of the capsule). These operations are performed by *scleroticomy*, the globe of the eye being penetrated through the sclerotica, or by *keratotomy*, through the cornea.

The whole of these processes are most minutely described by Dr. Desmarres, and beautifully illustrated with engravings, and a complete account is given of the

accidents which are liable to occur during and after the various operations, and of the various modifications which have been proposed.

44. *Statistics of Operations for Cataract.*—Dr. Edward Jäger, son of the celebrated ophthalmologist, has given the following statistics of his father's operations for cataract, performed at the Josephine Academy, in Vienna.

From 1827 to 1844, Professor Jäger operated on 1011 cataracts, of which 764 were lenticular, 207 capsulo-lenticular, and 40 capsular. The kinds of operation to which he had recourse were as follows:—

Extraction by the superior section in	728
“ by the inferior section	9
Partial extraction	58
Depression	129
Breaking down the lens	87
	<hr/>
	1011

Of the above number, 63 lost their sight; and it will be seen by the subjoined table what were the processes employed that gave the worst results:—

Of the 58 operated by partial extraction	3
“ 727 “ by extraction	33
“ 87 “ by breaking down the lens	6
“ 129 “ by depression	21
	<hr/>
	63

It follows, from this statement, that extraction has been the most successful; as the proportion of those who lose their sight to the number in whom the operation succeeded, is $4\frac{1}{2}$ per cent. in extraction; 16 per cent. in depression; and 8 per cent. in breaking down the lens, or absorption. In order, however, to derive full satisfaction from these statistical returns, we ought to have been apprised of the considerations that influenced Professor Jäger to have recourse to one operation in preference to another.*

45. *Extraction of Cataract by Suction.*—M. Blanchet presented to the Academy of Medicine a patient who had been affected with soft cataract for fifteen months, and on whom he had operated by this method with complete success. The pupil having been previously dilated by belladonna, he made a puncture in the cornea at the limit of this dilatation, in order that the slight mark which would result from the wound should not remain over the pupil. He then introduced through the incision in the cornea, as far as the crystalline lens, a tube resembling an anal syringe, but differing from it in having a greater diameter, and in its extremity being drawn out like the mouthpiece of a flute; he then aspirated through the instrument.

If, after having tried the suction, he found the capsule of the lens opaque, he then proceeded as usual.

The patient had been operated upon ten days, the pupil was perfect, vision completely established, and no accident occurred as a result of the operation.† M. Blanchet has employed this method, since June 1846, on other patients, with variable success; he has also resorted to it in certain purulent and sanguineous effusions into the eye.

46. *A New Cutting-needle for the Operation of Cataract by Extraction.*—This is described by M. Mayne; it is contrived for the purpose of—1st, making the section of the cornea and of the capsule at the same time; 2d, to avoid the difficult movement of bringing the knife out of the cornea; 3d, the point is so contrived that the iris would be wounded with difficulty; 4th, the wound is large enough to admit the passage of the lens, but not so large as to allow the humours to pass; and cicatrization is much quicker; 5th, the operation is as easy as that by depression. A plate of the instrument is given, and M. Mayne complains that his instrument has been misunderstood by description without such an accompaniment.‡

* Bulletin Med. Sciences, from Ueber die Behandlung des granar Staares, Vienna, 1845.

† Gaz. Méd., Juillet 1847.

‡ Gaz. Méd. de Paris, 6 Mars, 1847, p. 183.

§ XIV.—*Diseases of the Choroid.*

These are numerous:—1st, Choroiditis in its three forms; 2d, *Staphyloma*; 3d, *Dropsy*; 4th, *Hypertrophy*; 5th, *Atrophy*; 6th, *Ossification*; 7th, *Specks*; 8th, *Melanosis*; 9th, *Fungus*; 10th, *Traumatic Hernia*; 11th, *Wounds*.

47. *Choroiditis*.—This inflammation is never isolated; owing to its direct vascular communication with the other membranes, and in particular with the retina, iris, sclerotica and conjunctiva, it cannot be independent. Notwithstanding this, Dr. Desmarres devotes ten pages to its consideration. It may appear, at first sight, difficult to recognise inflammation thus located, yet, by attentive observation, pathological phenomena, which occur simultaneously in the other membranes, may give the most positive degree of certainty as to its existence, and enable us to determine the part of the membrane in which the inflammation is most severe, and to prevent its consequences.

§ XV.—*Diseases of the Ciliary Body.*

To treat of diseases of the ciliary body separately after those of the choroid membrane although a *cyclitis*, or inflammation of that body, *hernia*, *complicated staphylomata* (cirsophthalmia), *wounds*, and other affections, might be described, according to the views of Professor Desmarres, would be a useless repetition.*

§ XVI.—*Diseases of the Retina.*

These are very numerous, and are divided into three classes—I. Inflammations, including *acute retinitis* and *chronic retinitis*, the latter subdivided into *congestion of the retina*, and *chronic retinitis*, properly so called. II. Neuroses, including *hemeralopia*, *nyctalopia*, and *hemipia*. III. Affections not comprised in the preceding classes, including *apoplexy of the retina*, *encephaloid*, *dropsy*, *ossification* and *amaurosis*. Cases of *paralysis of the retina* are included in the general description of the last-mentioned affection.

48. In *Hemeralopia*, (night-blindness), as it occurs in warm climates, the first thing to be done, according to Dr. Guepratte, is to withdraw the affected organs from the influence of the light, and for this purpose he prefers to all others the bandage which is used after the operation for cataract. At the commencement it alone may suffice, and in a few days produce a cure. In more serious cases, whether or not there is derangement of the primæ viæ, he prescribes slight purgatives, as marsh mallows, sulphate of soda or magnesia, castor oil, and emetised whey. In strong plethoric subjects, of a high complexion, and with heat of the head, he preceded these means by bloodletting from the arm or from the foot. He has rarely had occasion to have recourse to these energetic means when he had to deal with patients who were otherwise healthy. In from five to twelve days the majority were cured; it was only after this latter period that he considered it necessary to apply a counter-irritant, as a blister to the nape of the neck.†

Dr. Desmarres admits that the causes of this affection are but little known, but considers that the retina is eventually involved; he gives a very interesting case from his own practice. M. Cunier has recorded an instance of a family of Hemeralopes, in whom it has existed for two centuries.‡ It is sometimes endemic, but most frequently epidemic. Mr. Jones has also seen a case of congenital night-blindness.

49. *Nyctalopia* (day-blindness).—Dr. Desmarres regards this as a disease of the same nature as night-blindness. It is totally distinct from the photobia of the scrofulous, or that to which persons accustomed to dark residences, and albinos, are subject, and is a very rare disease. Mr. Jones affirms that in this sense it does not certainly appear that there is any such disease.

* Lib. cit., p. 684.

† Gaz. Méd. de Montpellier, and Monthly Jour. of Medical Sciences, Sept. 1, 1847.

‡ Jones' Manual, p. 356.

§ XVII.—*Varia.*

50. *Sympathies of the Iris.*—Mr. Guthrie* has seen many instances in which the sympathy of the iris with the iris of the opposite eye existed, its sympathy with the retina, and accordingly the sensibility of the iris to light, being destroyed. When the sound eye is covered, the pupil of the diseased one, as under ordinary circumstances, dilates to a moderate extent, remaining in that state, and immoveable, under the full glare of the sun; but on uncovering the sound eye, exposing it to the same degree of light, both pupils are eventually contracted.

In a sound eye, no deviation of the iris from a perfect plane is observable; but it sometimes happens, and the case of Captain Kater, F.R.S., is given as an example, that the iris is tremulous, without any defect of vision. This circumstance is attributed by the author to a thinner state than natural of the vitreous humour, by which the balance of support before and behind the iris is disturbed. In an unsound eye this is usually accompanied by a capsular cataract, within which the lens has become soft, or has been absorbed—a state which forbids extraction. Hence, in cases of cataract, moderate pressure should be made on the eyeball with the finger, when, if the vitreous humour is thin and watery, the eye will yield more than it ought to do, and the iris will acknowledge the pressure.

51. *Hemorrhage after Extraction of the Lens.*—Mr. Soden, of Bath, mentioned to Mr. Guthrie two cases in which hemorrhage from the interior of the eye came on the second day after extraction of the lens; it was considered that the vessels of the choroid coat were in a varicose state, which might perhaps have been discovered, and the operation prevented. Mr. Guthrie subsequently saw a case which augured most favourably, both from the appearance of the eye and the success of the operation, yet hemorrhage supervened on the second morning, and did not cease until the eye was lost.†

52. *Blindness from the Use of Sulphate of Quinine.*‡—The fact that sulphate of quinine in large doses, will sometimes occasion blindness, has received additional illustration by the publication of several cases by Dr. John McLean. The “heroic” treatment pursued by the Americans in this instance, as in some others, is calculated to afford the profession important information. In one case, about sixteen grains of the medicine were administered hourly for a low remittent fever, until nearly an ounce had been taken. In another case, three grains were given hourly for three days. In another, three drachms were taken in thirty-six hours, in six-grain doses. In these and other cases perfect blindness was the result, the amendment from which was very slow indeed: in one instance, there was a gradual improvement during the first year; in another, the sight was partially restored after some weeks, but continued imperfect. “During the greater part of the first year the patient could look steadily at the sun without seeing it, or even any painful sensation being produced. When he first began to see sufficiently to read, which was in the course of the first year, he could perceive but a small luminous spot upon the paper, about one inch in diameter, within which he could distinguish letters, but all without this was cloudiness and confusion. During this time the pupils were very much dilated, and he could see objects at a distance much better than those near by. His sight has continued to improve ever since; and at the present time, although quite imperfect, is sufficiently good to enable him to read and write, although with some difficulty. The pupils are still considerably dilated, and it is with great difficulty that he can discern objects by twilight. The direct rays of the sun upon the head produce pain there, accompanied with a painful sensation deep in the orbit of the eye, and a disordered vision. At the present time exercise easily produces fatigue, by which his sight is much impaired.”

Trousseau also relates a case in which, after a dose of 48 grains of sulphate of quinine, the patient became temporarily blind and deaf.

53. *Effect of Bleeding on the Sight.*§—Many authors believe that very copious bleedings injure the sight. M. Duval lays down the following rules in reference

* On Cataract, p. 17.

† Guthrie on Cataract, p. 85.

‡ Illinois and Indiana Medical and Surgical Journal, Dec. 1846.

§ Gaz. Med., May 15, 1847.

to bleeding in ophthalmic affections; bleed largely when the integrity of the organ is threatened by violent inflammation; bleed largely again when an amaurosis is connected with a violent congestion, which threatens to produce such disorder in the texture of the parts as will be impossible to be overcome afterwards—in amaurosis occurring violently and suddenly, for example. In amblyopia proceeding slowly, insidiously, which almost always happens, avoid spoliative bleedings; abstract blood with reserve.

Bleedings are, again, useful to prevent or counteract the inflammatory accidents which frequently result from operations on the eye. The depression of the cataract imperiously requires them, since a foreign body is left at the bottom of the eye, which invariably induces a flow of blood thereto. Extraction requires it less frequently. Rosas does not bleed at all after the extraction of the lens, for fear of interrupting the adhesive process destined to close the wound in the cornea.

54. *Anæsthesia in Ophthalmic Affections.*—In cases of very violent ophthalmia in children at the Hôpital des Enfants Malades, M. Guersant employed a collyrium composed of one part of nitrate of silver, and four parts of water; but its application was attended with the most violent pain, and the children would cry so violently, that its use must have been abandoned if its advantages had not been so manifest. M. Guersant has submitted several of these young subjects to the influence of ether, by inhalation, under which they have been subjected to the cauterization, without the least murmur. Mr. Lawrence has extolled the effects of ether in a case in which the eye was extirpated for cancer. M. Velpeau extirpated the eye, the patient being under the influence of the same agent.

55. *The Surmûpe, a peculiar Disease of the Eyes.**—A scourge of the traveller in the Cordilleras is the disease called the *surmûpe*. It is a violent inflammation of the eyes, caused by the sudden reflection of the bright rays of the sun on the snow. By the rarefied air and the cutting wind, the eyes, being kept in a constant state of irritation, are thereby rendered very susceptible to the effects of glaring light. In these regions the sky is often, for a time, completely overshadowed by snow-clouds, and the greenish-yellow of the plain is soon covered with a sheet of snow. Then suddenly the sun's rays burst through the breaking clouds, and the eyes, unprepared for the dazzling glare, are almost blinded. A sharp burning pain is immediately felt, and it speedily increases to an intolerable degree. The eyes become violently inflamed, and the lids swell and bleed. The pain of the *surmûpe* is the most intense that can be imagined, and frequently brings on delirium. The sensation resembles that which it may be imagined would be felt if cayenne pepper or gunpowder were rubbed into the eyes. Chronic inflammation, swelling of the eyelids, dimness of sight, and even total blindness, are the frequent consequences of the *surmûpe*. In the Cordilleras, Indians are often seen sitting by the roadside, shrieking in agony, and unable to proceed on their way. They are more liable to the disease than the Creoles, who, when travelling in the mountains, protect their eyes by green spectacles and veils.

Although a deviation from the arrangement adopted, we have thought it better to place the following interesting cases of *paralysis* before our readers at once, than to defer them to the next Report.

56. *Paralysis of the Nerves of the Eye.*—Schurt has published a case of *complete immobility of both pupils, in which a loss of power in the third pair accompanied the loss of sensibility in the optic nerves*; and the recovery of the function of the third pair was followed, after a time, by the restoration, in part, of the mobility of the pupils. The motion of the pupil, it is well known, depends upon some other condition besides the stimulus of light upon the retina; and in amaurosis, with complete immobility of the iris, it would follow from this case, that the motor nerves of the iris have suffered a loss of direct power, as well as of that which they exert when light falls upon the retina. In cases of amaurosis, it appears to be most important to distinguish between the direct motions of the pupil from the action of light, and the motions of the iris independent of light, which vary much, according to the excitability of the temperament of the individual.

* The Edinburgh Medical and Surgical Journal, April 1848.

† Archiv für Physiologische Heilkunde, 1847, H. i., p. 37 and 38, and Monthly Journal, July 1847.

57. *A Case of Amaurosis of the Right Eye from a slight wound of the corresponding Eyebrow*, is related by Drs. Michelacci and Fedi.* The reporters observe that it is still a matter of controversy whether a simple traumatic lesion of a branch of the fifth pair can induce amaurosis. Müller seems disposed to attribute its production to commotion of the retina or the optic nerve, although there certainly exist examples of amaurosis following severe lesions of the forehead, without any such concussion having taken place.

Malgaigne, too, trusting to a false maxim that the lesion of a nerve may paralyse its terminal branches, but cannot operate in a reverse manner towards the trunk, is likewise intent upon proving the ease with which the peculiarity of the structure of the orbit allows of the production of commotion of the optic nerve. Lawrence doubts whether amaurosis ever results from injury of the frontal nerve.

The example we here adduce is not explicable, at all events, upon the above supposition. The patient became amaurotic immediately after receiving a small wound from a shot over the right eyebrow. Three questions were proposed by the legal authorities for the consideration of the reporters: 1st, whether blindness really existed? 2d, can it be referred to the infliction of this small wound? 3d, what hope is there for a cure? For a reply to the first of these, the state of the patient's eyes was diligently examined, and they were found to be quite natural in appearance, as also in the action of their pupils, as long as both eyes were kept open; but when the left eye was closed, the right pupil was found to be quite disobedient to any stimulus whatever. The experiments are said to prove the perfect blindness of the right eye, depending upon a complete paralysis of the sensorial nerve. The movements of the iris of the blind eye, which took place whenever the light was allowed to exercise its influence upon both eyes together, or only on the left one, did not at all depend upon the sensitiveness of the right retina, but were exerted solely by virtue of the nervous action excited by the light in the left eye, and by its sensorial nerve reflected through the medium of the brain upon the motor nerves of the right iris. These results agree with other cases of amaurosis confined to a single eye, and find their explanation in the doctrine of the reflex nervous action, as taught by Marshall Hall and Müller.

A very small cicatrix was observed over the orbital ridge, just at the point where the frontal nerve emerges from its foramen; and the blindness having immediately supervened upon the infliction of the wound which produced this, the second question was answered in the affirmative.

The prognosis was unfavourable; for seeing the rapidity with which the blindness was induced, the completely amaurotic condition of the visual apparatus, and the long period which had elapsed (thirty-four days) without any improvement having resulted, and recollecting Searpa's opinion upon the rarity of cure in these cases, it was to be feared that the loss of the sight of the eye would prove permanent.—*Annali Universali*, vol. cxvi. pp. 21, 22.

The reviewer remarks that, agreeing with the reporters that cases enough are on record to allow of the admission of the production of amaurosis by injury to the frontal nerve, without concomitant *concussion of the retina*, it cannot be allowed that their own case, one of gunshot wound of the forehead, although a slight one, can be considered as an unexceptionable example of this; and Mr. Jones† states that it can scarcely be admitted as regards amaurosis immediately following an injury—that it is directly connected with the injury rather than with concussion.

The following cases and observations will, however, more fully illustrate this subject.

58. *Paralysis of the Third Pair of Nerves consecutive to Neuralgia of the Fifth Pair*.—M. Marchal (de Calvi), in an interesting memoir in the "*Archives Générales*," points out a relationship which exists between paralysis of the third pair with neuralgia of the fifth, that has not been suspected. Trifacial neuralgia, he observes, has been little studied as regards the disorders which it produces beyond the nerve it affects, but which form a very interesting and curious part of its history. It is remarkable that a lesion, limited to a few filaments of the fifth, can, by a retrograde repetition of morbid actions, propagate itself to the nervous centres, and

* *Medico-Chirurgical Review*, Oct. 1846, p. 544.

† *Lib. cit.*, p. 509.

induce the most extensive, multiplied, and serious accidents, such as the loss of speech or power of deglutition, excessive dyspnœa, paraplegia, violent convulsions, emproshotonos, furious delirium. This is detailed in a case by Pouteau, which M. Marchal published with several others in a paper upon *Traumatic Prosopalgia*, in the 55th volume of the "Memoirs of Military Medicine." And in these cases so certainly was it the simple lesion of some of the trifacial filaments that induced so fearful an assemblage of symptoms, that when they were divided, by a section extending to the base, *the symptom which had so long resisted all medical appliances disappeared in half an hour, never to return.* Two phenomena, or two orders of phenomena, are sometimes so disproportioned, that the idea of their connexion never at first presents itself to the mind; for who could have thought such grave disturbances of sensibility and motion were dependent upon an old contusion of a few nervous filaments? Several facts, and a careful examination of all their circumstances, were required before this connection could be perceived. These cases of prosopalgia, with *general* lesion of sensibility and motility, led M. Marchal to recognise the *special* relation which exists between the paralysis of the common oculo-motor nerve and neuralgia of the trifacial, in the following cases.

CASE I. A soldier, æt. 47, of a very nervous temperament, was the subject of paroxysmal pains of dreadful violence on the *left* side of the head and face, especially in the vicinity of the supra-orbital foramen, mastoid process, and in the teeth of the upper jaw. The left eye became affected with diplopia, but presented no deviation from its normal direction. The sensibility of the left cheek was entirely gone, as also of the nostril, although he could still perceive odours. He could open his jaws only to a very slight extent. M. Marchal tried the experiment of compressing the frontal nerve as it passed out of its foramen. This caused great pain, but *immediately, and so long as it was continued, the diplopia ceased.* The experiment was frequently repeated, with the same results. The pressure, however, could not be employed as a remedial means in consequence of the great pain it gave rise to; but the patient obtained considerable ease during the paroxysms from inducing compression of the dental nerves, by introducing a small piece of wood between two of his teeth. Seven blisters were successively applied over the supra-orbital region, in the space of twenty days, purgatives and stimulating pediluvia being simultaneously resorted to. The pain was relieved, and the sensibility restored; but the diplopia remained, and the globe of the eye became smaller, and drawn inwards, the upper eyelid being also paralysed, so that the eye was kept shut. But now analogous pains and diplopia were observed on the right side, so that this latter could no longer, as heretofore, be obviated by closing one eye. Blisters were applied on this side, and the pain relieved; but the diplopia of either eye continued, and the patient's vision became sensibly enfeebled. Time and the use of Meglin's pills, or probably the first alone, gradually restored his vision; and one evening, after drinking to excess, the diplopia also suddenly left him. The patient, however, eventually became the subject of various other nervous affections, which entirely destroyed his health.

CASE II. A young woman, æt. 26, and otherwise in perfect health, had suffered for two years most violent pains in the left side of the head, radiating towards the ear, eye and cheek. They were accompanied by tinnitus aurium, and red flashes before the eye. Eight days before visiting her, the eyelid could not be raised, and the globe of the eye was simultaneously drawn outwards. The pupil was dilated. A sharp pain was felt opposite the supra-orbital foramen, and increased when she laid on that side. Following her occupation as a shoebinder, she had, many years since, been accustomed to press the left side of her head against an article of furniture. This gave rise to a tumour here, which suppurated, and the resulting sore was obstinate in healing. On touching the cicatrix which this left, a sudden and violent frontal pain was felt. Blisters were applied over the cicatrix, and galvanism employed in the course of the third pair, but all without success.

CASE III. A pensioned soldier, after having been exposed to damp, had suffered horrible paroxysmal pains at the root of the nose, and near the supra-orbital foramen. After a certain time these ceased, and were followed by the complete descent of the eyelid, the globe of the eye being also drawn outwards and the pupil dilated.

CASE IV. Louise Heberard, æt. 33, had enjoyed good health until she worked as a dressmaker in a cold, damp apartment. In June, 1844, she was seized with toothache on the left side, and then with pains along the left eyebrow, and eventually opposite the supra-orbital foramen. Severe pains were also felt at the root of the nose, and near the angle of the jaw. The left eye became drawn inwards, and she saw double. In May, 1845, the upper eyelid fell, and the eye which had been drawn inwards now became drawn outwards. Tactile sensibility of the left side of the face and head was abolished. The sense of smell was gone, on the left side, as that of taste at the anterior part of the tongue. During mastication, the patient often bit the left side of her tongue, and she articulated so imperfectly as to be understood with difficulty. She was much troubled with confusion of the head, and could not guide herself unless the left eye was closed, on account of her double and confused vision. No means that were tried gave her more than partial relief.

CASE V.—A man, in M. Gendrin's ward, while employed on a railway, had received a blow on the forehead, which induced violent pains radiating towards the surrounding parts. Upon his admission, long after the accident, pressure upon this point still caused some pain; and several months after the existence of these neuralgic pains, the upper eyelid of the same side fell, and the eye was drawn outwardly.

In these cases it cannot be doubted that the neuralgia of the fifth pair preceded the paralysis of the third. As in the third case the neuralgia may have ceased for a longer or shorter space of time, and then the paralysis may seem to be independent of it, until due inquiry is made. M. Marchal is certain that a great number of cases of paralysis, consecutive to neuralgia may, in this way, be detected.

M. Marchal believes the following hypothesis offers the most probable explanation of the occurrence. The trifacial nerve, and the common motor oculi, meet in the ophthalmic ganglion, the former furnishing it the sensitive root by the nasal branch, the latter the motory root from its inferior branch. It will be admitted that a reflex morbid action may take place within this ganglion, by which the affection, which is expressed in the sensitive nerve by pain or anæsthesia, is transmitted to the motor nerve, in which it is expressed by convulsion or paralysis.—M. Marchal says convulsion; for in the first case, the eye was drawn inwards, as it also was at first in the fourth. The symptomatology of the motor, as of the sensitive nerves, is of two opposite kinds; pain and anæsthesia for the latter, convulsion and paralysis for the former; and in this way, prior to the paralysis of the rectus internus, it may have been in a state of excitement, during which the eye would be drawn inwards.

This hypothesis is consistent also with the most plausible theory of the functions of the nervous ganglions—true miniature brains as they have been called, for the regulation of special actions—receiving impressions by filaments continued from the sensitive roots, and conveying these by the motory filaments—presiding over the nutritive phenomena by their gray fibres, and only advertising the brain proper of what is occurring in their localities, under extraordinary circumstances. In this way, the ophthalmic ganglion in particular, would be affected in the relations prevailing between the retina and the iris, and certain muscles of the eye. Advertised of the vicissitudes of sensibility of the retina by its connection with the optic nerve, it reacts upon the iris, harmonising the pupil according to the degree of sensibility of the retina, and acts reflectively by its motory root upon the muscles of the eye, which are influenced by the third pair.

There is, then, besides the perception belonging to the brain, another, viz. a *ganglionic or organic perception*.*

We shall be able to complete this report on Ophthalmic Medicine and Surgery in our next Volume, and to include an Abstract of any new works, discoveries, and improvements, which may reach us to the time of the concluding part going to press.

* Med.-Chir. Rev., Oct. 1846; from Archives Générales.

III.

REPORT ON THE PROGRESS OF MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

BY THE EDITOR.

THE literature of the obstetrical department of medical science has received but few additions since the date of our last Report, in the form of distinct treatises; the only one, in fact, which has reached us, is a volume entitled "Practical Observations on Midwifery," by Drs. M'Clintock and Hardy. In the possession of this work, we consider that the profession has received a most important gift. As a work of reference, it is especially valuable, embodying the results of an extended experience under almost every disease and emergency peculiar to the puerperal state. We shall submit its contents to a careful analysis during the separate stages of the present Report.

It is our duty also to announce the establishment of a periodical publication specially devoted to obstetrical subjects, under the editorship of Dr. Clay, of Manchester. It is, we believe, the first attempt in this country of the kind, but one for which the increasing energy which pervades this branch of science has created an ample field. From the high character of many of the communications already received, and the known industry of its conductor, we argue well for the prosperity of the "British Record of Obstetrical Medicine," and we trust long to see its regular appearance among the list of our exchanges.

The various journals of this and foreign countries have contained, during the past six months, an average amount of valuable essays and communications.—Such of these of value as have not appeared among our Extracts, we shall embrace in the present Report.

† I.—*Exhibition of Anæsthetic Agents in Midwifery.*

The use of ether and chloroform, but more particularly the latter, in natural and difficult labours, has caused, for some time past, and still continues to excite unusual attention, and no little discussion has ensued, not only as to its beneficial effects, which but few are disposed to dispute, but also respecting the propriety of annulling the pains of parturition on religious and moral grounds.

In reference to the opposition exhibited by certain well-meaning but mistaken religionists, who would doom woman to the most fearful physical agony which human nature is called upon to endure, fearing lest they should endeavour to controvert what they interpret as the will of God, we have already (Vol. V, p. 336) shown that the whole force of the objection falls to the ground, simply for the reason that no such denunciation as they choose to imagine has been made; but the subject has subsequently been so ably handled by Dr. Simpson, that by way of dispelling any lurking doubts in the minds of our readers, as to the propriety of relieving a suffering woman in the hour of her peril, we shall give a brief recapitulation of his line of argumentation.

It may be premised, that those who object to the superinduction of anæsthesia during parturition, on religious grounds, found their objections upon the words of the curse pronounced by the Almighty after the fall of man. Dr. Simpson shows that these objectors have never troubled themselves to inquire into the real meaning of the words in which the denunciation is framed, but have trusted to the common translation, without considering that there is a possibility of more or less of the passage having been misinterpreted.

With respect to the words themselves, it may be stated, as Dr. Simpson remarks, that the curse is triple, referring not only to the woman, but to the serpent and to the ground.

Now, God himself shows that, in the case of the woman and the ground, the curse is not immutable, for he promises its removal; as in Deut., vii, 13, "I will bless the fruit of thy womb," &c.; and again, xxviii, 4, "Blessed shall be the fruit of thy body, and this the fruit of thy ground."

Again, Dr. Simpson shows, if we are bound to take the curse *literally*, we must do so in its whole extent, and if it be sinful to endeavour to counteract one portion of it, it is so also with the other. Not only, then, must we refuse to assuage the pains of labour, but we ought not to cultivate the earth; for, in causing it to bear corn, we in so far counteract the Almighty fiat, that it should bear only "thorns and thistles." But who blames the agriculturist if he pulls up these weeds?—Man is also enjoined to eat bread by the sweat of his brow, but no one accuses him of impiety because he employs steam-power and horse-power, and thus saves his own labour.

To proceed with Dr. Simpson's argument—If it be justifiable in the agriculturist to endeavour to counteract one portion of the curse, as regards the earth, it is also allowable to the physician to counteract another, as regards the woman.

But the entire absurdity of the pietistical objections in question is most distinctly shown in the fact that the word, rendered in the common version "sorrow," cannot be made to signify *physical pain*. The Hebrew word (*'etzebh*, or *itzabhon*) as Dr. Simpson demonstrates, is derived from the root *'atzabh*; the signification of which, according to Gesnerius, is to *labour, form, fashion*, or, again, to *toil, to grieve*; and the noun *'etzebh* is, therefore, he thinks, rightly understood to refer to the *toil* or *muscular effort* necessary for the act of parturition, and not to the *physical pain*. The very same word, in fact, wherever else it occurs in Scripture, evidently refers to *toil*; as in Gen. v. 29, "And he called his name Noah (comfort), saying, This same shall comfort us concerning our work" (*'itzabhon*), &c. Again, Prov. xiv, 23, "In all labour (*'etzebh*) there is profit," &c. &c. It is, therefore, says Dr. Simpson, not an illegitimate deduction, if a certain word (*'etzebh*) occurs as it does in only six Rabbinical passages, and in five of these has no reference to *pain*, but merely *muscular effort*, that in the remaining passage it would also have the same signification. That such a deduction, however, is legitimate, is shown by the fact, that whenever in Scripture the pain of a woman in particular is alluded to, other words are used, viz., *khl* and *khebel*. The references to these words are, Psalms xlviii, 6, "Fear took hold upon them, and pain as of a woman in travail" (*khl*); Jeremiah, vi, 24; Isaiah, xiii, 8, &c. &c.

Again, Dr. Simpson argues, that even if it could not be contravened that the primeval curse did apply to the infliction of bodily pain, still, to suppose that the abidance under the curse is intended, is to nullify the whole testimony of revealed truth as to the intention of the death and sacrifice of Christ, who is expressly stated to have "borne our griefs, and carried our sorrows," and to have offered himself as a peace-offering to the insulted majesty of the Creator, and thus to have averted the penalties of the fall.

He shows, in the last place, that the same absurd objections were made to the introduction of vaccination, as to the abolition of parturient suffering. "Small-pox," observes Dr. Rowland, "is a visitation from God, but the cow-pox is produced by presumptuous impious man. The former, Heaven ordained; the latter is, perhaps, a violation of our holy religion." How puerile do such sentiments now appear! but they are equalled, if not surpassed, in absurdity, by the objections, on religious grounds, to obstetrical anæsthesia.*

—An objection to the induction of anæsthesia in parturition of a moral nature has also been urged by Dr. Tyler Smith, in his "Lectures on the Mechanism of Parturition." Reasoning from the analogy of the lower animals, many of which are known to exhibit great ovarian or sexual excitement during and immediately after parturition, he considers that the human female would also manifest the same erotic tendencies, were such feelings not kept in abeyance by the acute

* Answer to the Religious Objections advanced against the Employment of Anæsthetic Agents in Midwifery and Surgery, by J. T. Simpson, M. D., Edin., p. 24.

physical suffering attendant upon the process. If, therefore, he argues, we abolish the pain, we run the risk of allowing ovarian excitement to have full play, and thus become the means of inducing an immodest exhibition, which would be equally painful to all parties concerned. We do not deny that erotic excitement may occasionally display itself in the human female at the period of parturition, as well as in the brute, but we are not disposed to allow that it is so general as Dr. Tyler Smith would insinuate; and, moreover, when such excitement does exist, it is, we believe, more commonly manifested *after* than *during* childbirth, and, therefore, would not be influenced by the exhibition of chloroform, which would only be made during the actual process of the expulsion of the child.

—Among other communications adverse to the use of anæsthetics in midwifery, we may allude to papers by Mr. Barnes* and Mr. Greaves;† but neither their contents nor the spirit in which they are evidently written entitle them to further notice. These, with the exception of a few isolated reports of unpleasant effects, or failures in the action of chloroform, constitute the main bulk of the opposition which has been brought to bear upon the subject. We shall now proceed to give a short abstract of the evidence which has been adduced on the opposite side of the question.

Firstly. Professor Simpson reiterates his belief in the advantages to be derived in anæsthesia in natural and morbid parturition, stating that since the introduction of ether, and previously to his discovery of chloroform, he had used the former, with few and rare exceptions, in every case of labour which had come under his care, and with results the most gratifying. He had never, he observes, seen better or more rapid recoveries, nor has witnessed any disagreeable results either to mother or child. His own conviction is that the practice will become very general, if not universal; and that even if medical men oppose it, unless, indeed, they can give better reasons than they have hitherto done, their patients will force them into its use; and this we think a not unlikely result.

—In a more recent publication by Dr. Murphy, the more matured experience of the profession regarding the use of chloroform in midwifery is very favorably portrayed. Seven cases are narrated, well calculated to test its efficacy, being all cases of more than ordinary obstetrical difficulty. The first was a case of contracted pelvis and delivery by perforation; the second, also contracted pelvis and delivery by turning; third, craniotomy, performed on account of the obstruction of a fibrous tumour; fourth, a forceps case; fifth, shoulder and arm presentation; sixth, tumour obstructing parturition; seventh, a forceps operation.

Dr. Murphy, in common with Dr. Snow, divides the effects of chloroform into three stages. In the first there is some excitement, consciousness, and volition remaining, but the sensibility of the nerves being blunted; the pulse not increased in frequency, and the action of the uterus unimpaired, with increased vaginal secretion and relaxation. In the second degree, the patient becomes insensible to pain, the pulse falls, the voluntary muscles are torpid, but the uterine contractions continue, and the vagina remains moist, as in the first stage. In the third degree, uterine action is suspended, the respiration becomes stertorous, and vomiting occasionally ensues. As may be surmised from these effects, Dr. Murphy considers it sufficient to induce only the first degree of insensibility in ordinary cases, and, in such, reserves its use till the second stage of labour; in certain cases requiring operation, he admits of a deeper insensibility.

As the result of a dispassionate inquiry into the subject, he gives the following conclusions:

1st. Chloroform does not interfere with the action of the uterus, unless given in large doses, which is unnecessary.

2d. It causes a greater relaxation in the passages and perineum. The mucous secretion from the vagina is also increased.

3d. It subdues the nervous irritation caused by severe pain, and restores nervous energy.

4th. It secures the patient perfect repose for some hours after delivery.

* Lancet, April 15.

† On the Use of Anæsthetic Agents in Natural and Morbid Parturition, 1847.

5th. Its injurious effects, when an ordinary dose is given, seem to depend upon constitutional peculiarities, or improper management.*

—A paper has also been read quite recently before a meeting of the Westminster Medical Society, by Mr. Brown, giving evidence much in favour of the use of chloroform in midwifery. The author, however, while praising its beneficial effects, admits that is not without danger both to mother and child, if given indiscriminately. If it be given too rapidly, for instance, or if the apparatus does not admit a free supply of atmospheric air, some unpleasant consequences are almost sure to follow. Mr. Brown's mode of exhibiting it is in accordance with the recommendation of Dr. Simpson, to give a few inspirations just before each pain, keeping the patient just asleep in the interval. He sprinkles fifteen or twenty drops of chloroform on a pocket handkerchief, and approaches it to the patient's face cautiously. If this quantity is sufficient to subdue the pain, and enable the patient to bear the expulsive effort without inconvenience, he does not on the next pain increase the dose, but uses the same quantity, or even diminishes it, if not required. Mr. Brown is clearly of opinion that chloroform possesses not only anæsthetic properties, but that in small doses it actually excites uterine contractions. In reference to the ultimate effects in the progress of the case, he does not hesitate to state that when employed as above it is decidedly beneficial.†

—Dr. Nevins, in an essay before alluded to, mentions as the general results of the exhibition of chloroform, that, though the labour occupied the usual period, less fatigue and exhaustion ensued, the recoveries were unusually rapid, and the after-pains trifling. The hemorrhage which followed the expulsion of the placenta was also less than usual.

—The individual reported cases in which chloroform has been administered in labour are far too numerous to be mentioned in detail; but we may state briefly that they include instances of natural labour, operative midwifery, puerperal convulsions, &c. Of the latter, three cases are recorded in this country, by Messrs. Clifford, Fearn, and Wilson; and one in France, by M. Richet. In all, the convulsions ceased under its influence.

Little remains to be added to the above accounts of the present state of the interesting question of the employment of anæsthetics in midwifery. It is abundantly evident, as it appears to us, that judiciously administered, excepting in a few cases of idiosyncrasy, it is not only innocuous both to mother and child, but that the different stages of labour are passed through with a diminution of suffering, and also that a positive mechanical improvement in the physical condition of the parts implicated is brought about. It is a question whether its use is to be advised indiscriminately in those cases of natural labour in which the pains are comparatively slight; but we do not hesitate, taking the present aspect of the question to be the true one, to state, that in every case of natural labour, in which the suffering is inordinately great, or whenever operative interference is necessitated, anæsthesia *ought* to be induced; and we moreover consider that the accoucheur who, under such circumstances (no special contraindications existing), neglects to avail himself of the inestimable benefits thus placed within his reach, neglects a large portion of the duties which are attached to his responsible office. We repeat that this is our *present* opinion, based upon present experience of the effects of anæsthetic agents; what modifications in these views may be induced by the further investigations of the profession remains to be seen.

‡ II.—Diseases of Females unconnected with Pregnancy.

1. *Lymphatic Tumour of the Breast.*—Under this title Dr. Milman Coley describes a disease of the female breast, characterized by a painful swelling, consisting of several cord-like indurations, evidently located in the absorbent vessels. He states, that the tumour may readily escape detection upon a superficial examination, but can always be recognized by taking the part between the finger and thumb. The absorbent glands in the axilla sometimes sympathize, but these engorgements

* Chloroform in the Practice of Midwifery, by Edward Murphy, M.D.

† Lancet, April 29.

disappear after the original disease has subsided; the lymphatic swelling in the breast also frequently retires, leaving no vestige behind it. In extreme cases, however, a permanent thickening takes place, occasioned by the deposit of lymph in the cellular membrane. This disease usually attacks females between the ages of fifteen and thirty-five, and is liable to recur repeatedly, where the constitution is in the peculiar state predisposing to it. This condition is one of comparative emaciation, accompanied with irregular or deficient menstruation, depression of spirits, and general debility. Hence, suckling and chlorotic women are most frequently the subjects of attack. In some instances, the patients are inclined to attribute the origin of the disease to external violence; in the majority of instances, however, if not in all, it has appeared to proceed from imperfect menstruation. In one instance, in which the author had an opportunity of examining the uterus in a patient labouring under this disease, he found the posterior portion adjoining the cervix in a state of congestion, presenting to the finger a doughy or anasarctous feeling. The size of the tumour in the mamma varies from that of an almond to that of an adult thumb; and the pain and tenderness attending it are of a remittent character. In some rare cases it attains nearly the size of a pullet's egg in large and plethoric mammae.

One of these tumours, which was removed at the earnest solicitation of the patient, who had suffered severely from repeated attacks of the disease, was found, on examination, to consist of thickening of the coats of the lymphatic vessels, imbedded in a stratum of condensed cellular membrane.

The affection is considered by the author to depend on a defective state of the general health, and more particularly upon an imperfect discharge of the uterine functions. Its duration is uncertain, often returning, and as often subsiding, in some cases; in other and more severe cases, it terminates in painful and obstinate ulceration, which, in external appearance, has a considerable resemblance to that proceeding from scrofula, the absorbent glands in the vicinity being enlarged, tender, and painful, and the discharge copious. Before ulceration commences, the cellular membrane subjacent to the skin becomes indurated; this induration is gradually softened, the skin assumes an inflamed appearance, and a small, chronic, scrofula-like abscess is the result. The ulcer which follows resists all local treatment until the proper constitutional remedy is adopted.

Diagnosis.—The discrimination of this disease from others resembling it is not difficult. From the chronic, mammary tumour, described by Sir A. P. Cooper, it may be distinguished by the pain and extreme tenderness, by the vitiated state of the patient's health, by the absence of lobes and of any cyst, and by the disease invading the breasts of suckling women more frequently than those of virgins. The condition of the uterus, too, is widely different; in the mammary tumour, a state of excitement prevails; in the lymphatic tumour, a deficient circulation takes place in that organ, manifested by the discharge of an imperfect secretion, or false membrane, from its mucous surface.

From the irritable tumour, and neuralgic state of the breast, this disease may be known by the transverse, parallel, or anastomosing, cord-like bands, which are always present, by the remission of the pain and tenderness, and by the latter symptoms being confined, as far as regards the breast, to the immediate locality of the tumour. The diagnosis in the examination of very large breasts is sometimes difficult.

Treatment.—When the pain and tenderness are excessive, leeches and evaporating poultices may be applied to the integuments over the tumour. In general it will be found unnecessary to adopt any local remedies, as the pain is not acute, but usually of an aching kind, like that accompanying rheumatism or phlegmasia dolens. The patient should take some preparation of iron twice daily, have the bowels relieved by an aloetic aperient, if needful, and use a generous diet, and gentle exercise in the open air. Should suckling have been long continued, the infant should be weaned, especially if the patient has been the mother of many children. By attending to these directions the tumour will entirely disappear in a few weeks, or all uneasiness will be so far removed that the patient will feel no inconvenience from it, unless the constitutional and uterine derangement should recur.*

* Lancet, May 27, 1848.

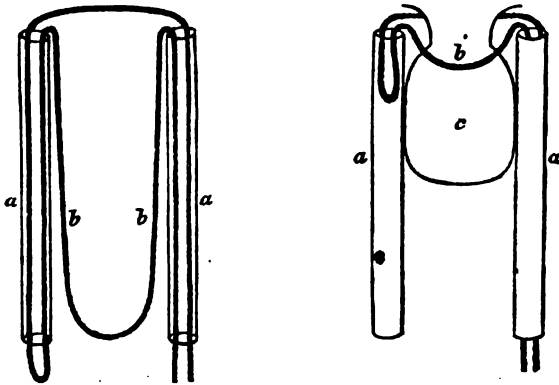
2. *Prænatural Elongation of the Cervix Uteri*.—The same writer mentions as an occasional consequence of passive congestion of the uterus, a remarkable elongation of its neck, which becomes not only extended in length, but also increased in thickness, so as to resemble the teat of the cow. When it admits of relief from medicine, he finds the ioduret of iron, with rest, in the recumbent posture, combined with support, by means of a soft sponge, sufficient to effect a cure; and when the case is rebellious to this treatment, he advises the superfluous part to be amputated, which, he states, may be done with safety. Two cases are related illustrative of both modes of treatment.*

3. *Polypus Uteri*.—Dr. Mitchell reports a case of uterine polypus, in which the ligature was nine days in cutting through the pedicle, and was accompanied by severe hemorrhage. He has likewise some comments upon the diagnosis of the disease and the application of the ligature, which we do not find to include any remark either of novelty or interest, beyond the recommendation to have each extremity of the cord armed with wire a foot long, by which means it is made here readily to traverse the canula.†

—In a communication to the Medico-Chirurgical Society by Dr. Locock, entitled "Peculiarities of Polypus of the Uterus," the author calls attention to a small variety of polypus which may be attached so high in the cervix as to be scarcely reached, and which is a frequent cause of profuse menorrhagia. For the extraction of these he has had an instrument constructed like a gouge, by means of which he removes the morbid growth. This gouge is inclosed in a canula, and is made to protrude by a screw in the handle. The canula being passed through the cervix, its cutting edge is pressed against the base of the polypus, and it is gently worked half round till it cuts through. In reference to the incision of larger polypi, the author speaks strongly of the advantage of twisting the pedicle two or three times round previous to using the cutting instrument; stating that since he had adopted this precaution he had never met with troublesome hemorrhage.

In the discussion which followed the above remarks, Dr. H. Bennet mentioned the subject of the fetid discharge which frequently remained after the polypus had sloughed away, and which is commonly supposed to come from the peduncle. This opinion Dr. Bennet had satisfied himself was incorrect, but that it in reality proceeded from ulceration of the mucous membrane surrounding the peduncle. This fact he considers to have been previously unknown.‡

4. *Simple Method of applying a Ligature to Uterine Polypi*.—The recommendation of this method is its simplicity. M. Favrot, who mentions it, takes two gum-elastic catheters, and cuts off the end of each just above the eye; he then doubles a piece of silk, of convenient length, and inserts the loop into one catheter, and the two



aa catheters; bb loop; c polypus.

* British Record of Obstetrical Science, No. 1.

† British Record, Nos. 1 and 3.

‡ Reported in *Lancet*, May 6.

ends into the other, and brings each extremity out of their lower end. This being done, the next step is to separate the two threads between the upper ends of the catheter, and to bring one down in the form of a loop, leaving the other, which is carried up to the pedicle of the tumour, as in the ordinary operation. The application then is as follows:—

The catheters, or sounds, together with the interposed thread, are carried up to the base of the tumour, the thread forming the loop being held on each side with the respective catheters. This being done, the loop is allowed to glide over the tumour, the two catheters are transferred to one hand, and the two ends are drawn down so as to tighten the loop, which eventually passes entirely out of the sound which contained it, and encircles the pedicle. The empty catheter is then removed, and the ligature fastened at the base of the other.*

This description is rendered more intelligible by a reference to the annexed diagram. (See page 257).

[We have lately tried this plan, but did not find it by any means so simple as it appears. There was great difficulty in getting the thread to run freely through the sound, and still greater in fixing it sufficiently firm afterwards. We were obliged at last to use Grooch's instrument.]

5. *New Form of Pessary for Prolapsus Uteri*.—Dr. Reid has contrived an instrument which he calls the "womb supporter." It is formed of two separate steel springs, very narrow at the ends by which they are joined together; the free extremities being each one inch and three quarters broad, convex externally and concave internally; so as to admit of cork being attached to it; and the whole being covered with elastic gum, it has no sharp edge. The two narrow ends of the springs are fastened together by an intervening piece of ivory or wood, so formed as to allow the broader extremities to separate from each other to the extent of two inches and a quarter at their outer surfaces. The two free ends are pressed together when introduced into the vagina, and are then allowed to expand, and to become applied to either side of the cervix uteri. The instrument is then gently pushed up, until its narrow end is at the vulva, thus raising the womb with it at the same time. (A second form of the instrument has a contrivance by which the ends can be easily drawn together, and the introduction as well as the extraction of the instrument facilitated.) A button is fixed to the connecting piece of ivory, and to this button a loop of vulcanized India rubber is attached, through which a T bandage, riband, or other guard can be attached or fixed to the stays.†



—A new form of uterine support has also been invented by Mr. Scholefield, of which the following is a description and representation.

Description.—The composition is porcelain; the pillar is about three inches in length, circular, and half an inch in diameter; the top is circular, and made of various sizes, being hollowed into a cup-like cavity on its upper surface, for the reception and support of the labia uteri; the bottom is of an oblong figure—its angles rounded, measuring in length an inch and a half, and in breadth half an inch, having two small oblong holes in it, equidistant from the extremities, through which straps pass to be fixed to a belt around the patient's waist. The straps are composed of vulcanized India rubber, about twenty-four inches long, half an inch in breadth, and one eighth of an inch in thickness. There is one strap in front, doubled on itself at the hole in the bottom of the pessary, and its ends are buttoned to the belt; a similar arrangement exists for the back strap. The belt is of a suitable length and breadth, has a buckle at one end, and four buttons on it.

Application.—The belt is to be applied around the waist with sufficient firmness to prevent its slipping downwards. The buckle is to be placed in front of the abdomen, above, and immediately opposite to the umbilicus; and if the belt is

* *Revue Médico-Chirurgicale*, Jan. 1848.

† *Lancet*, May 6, 1848.

‡ *Ibid*.

of a suitable length, the buttons front and back will be exactly opposite each other. The distance between the two front buttons should be three inches, and a similar space between those at the back. When the pessary is applied, the lower part of the pillar should press a little against the fourchette, and the straps, when of a proper length (the length required varies in different cases), should allow the bottom of the pessary to be from a quarter to half an inch from or below the vulva; for if the bottom of the pessary is immovably fixed in consequence of the straps pulling it so tightly to the vulva as to prevent the slight degree of mobility necessary, (if the case be one of procidentia,) there will be a danger of the uterus slipping from the top of the instrument; but this untoward accident may with certainty be avoided, if the above direction be acted on when the pessary is applied.*

7. *Amputation of the Cervix Uteri.*—A case is recorded by Mr. Moore, of Derry (U. S.), in which 2½ inches of the cervix were removed in a young female, æt. 27, for suspected cancerous degeneration. The patient did well.†

8. *Retroflexion.*—This subject, which we have noticed in Article 8 of the "Abstract" may be continued by a notice of two essays, which have subsequently appeared, by Dr. Protheroe Smith and Dr. Simpson.

—Under the title of "Flexions, Torsions, and Malpositions of the Uterus," Dr. P. Smith has published a paper in the "British Record," in which he expresses his opinion as to the great frequency of this affection, and the facility with which it is confounded with tumours of the organ. The displacement, he observes, may occur before puberty, but is more common after menstruation is established. The extent of the flexure varies: sometimes is very slight, at others so great that the increased fundus may be felt as low as the os. Of the symptoms and means of diagnosis, an accurate account is given by his former pupil Mr. Hensley (see "Abstract," Art. 84), and it is therefore unnecessary to repeat Dr. Smith's description of them, which is for the most part the same.‡

—In his latest communication on the same subject, Dr. Simpson makes no distinction, excepting one of degree, between "retroflexion" and "retroversion," believing such distinction to be an unnecessary refinement; in this he differs from Dr. P. Smith, Dr. Rigby, and others, who speak of the two forms of displacement as essentially different in nature, causes, and symptoms. "Practically," says Dr. Simpson, "there is no true difference between these modifications of morbid position of the uterus;" and he therefore includes both degrees under the generic term "Retroversion." [It is with deference that we venture to differ from so high an authority as that of Dr. Simpson, but we cannot avoid entertaining the opinion that some further distinction than that of degree is to be drawn between retroflexion and retroversion, although some of the mechanical symptoms may be identical in the two varieties of displacement. It must, for instance, in reference to the condition of the uterine circulation, make a vast difference, whether the entire organ be displaced backwards (retroversion), or whether the body of the organ is bent upon itself (retroflexion); in the former case the axis only is altered, and it may be conceived that the uterine circulation would be comparatively unimpeded; but in the latter case, in which the fundus is bent at more or less of an acute angle, we may equally readily imagine that considerable obstruction is offered to the return of blood from the lower segment of the cervix more especially, and hence is established a greater tendency to engorgement, if not ulceration of the lower lip.]

Dr. Simpson divides the symptoms of retroversion or retroflexion into two classes, *functional* and *physical*. The functional symptoms are stated to be of hysterical or dyspeptic character, with local neuralgic pains in the breast, or some portion of the vertebral column; from mechanical obstruction of the displaced organ, there is also more or less constipation. Occasionally, the bowel is irritated, and mucous or fibrinous matters are expelled. The bladder is irritable, and there is sometimes incontinence of urine. There are symptoms of weight, tension in the uterine region, with pains down the thighs, which are much aggravated by exercise and the erect posture. The menstrual function is not in all cases morbidly altered, and when it is so, it is variously affected; in some cases being too

* Lancet.

† Boston Med. and Surg. Journal.

‡ Nos. 1 and 3.

profuse, in others too scanty. When a patient with retroverted uterus becomes pregnant, abortion is very apt to occur. But it is also often a cause of sterility; and Dr. Simpson has seen a permanently retroverted uterus in the unimpregnated state, in those instances in which women have borne children at intervals of several years.

The physical signs of retroversion are chiefly such as are made out by the touch and the use of the uterine sound. The speculum, in Dr. Simpson's opinion, does not assist the diagnosis in any respect.

On an accurate vaginal examination, the fundus of the uterus is felt as a globular tumour, between the os and the rectum; it is smooth and ovoid, more or less sensitive to pressure. The os and cervix may be displaced forwards, or remain nearly in situ. The tumour, felt in the recto-vaginal pouch, may be known to be the fundus uteri by tracing the continuity of structure with the finger; but, as Dr. Simpson states, this alone is very liable to lead to error; for if the uterus is retroflected at an acute angle, the continuity is lost at the point of flexion. Other means, therefore, become necessary, and a ready mode of exploration is offered by the uterine sound. This instrument has the configuration of a slender male catheter, fixed in a handle, and marked by notches indicating inches, so that the length of the uterine cavity can be accurately measured. The use of this instrument, as a means of diagnosis in retroflexion, depends upon its enabling us to ascertain the direction of the uterine cavity, which is found to point backwards and downwards, instead of upwards and forwards. A more minute description of the method of using this instrument is unnecessary, as it is given in sufficient detail by Mr. Hensley. (Vide *supra*, p. 136.)

Retroflexion of the unimpregnated uterus is, however, not only often entirely overlooked, but it is often mistaken for other lesions. The principal sources of error are thus pointed out by Dr. Simpson:

1st. *Pregnancy*.—Dr. Simpson has frequently seen the retroverted fundus mistaken for the fullness in the cervix induced by early pregnancy; a lamentable instance of which he alludes to.

2d. *Fibrous tumour*. This is a frequent source of error. The functional symptoms are the same, and there is the same continuity felt between the cervix and body. The introduction of the bougie at once clears up the diagnosis by passing backwards into the apparent tumour, thus showing it to be the retroverted fundus.

3d. *Ovarian tumour*.—When the ovary is enlarged, it almost always first grows downwards into the recto-vaginal space; in this state it may be mistaken for the retroverted fundus. Here, again, the case is rendered obvious by the sound passing in a normal direction.

4th. *Pelvic cellulitis*. 5th. *Extra-uterine conception*. 6th. *Organic disease of anterior walls of the rectum*. 7th. *Stricture of the rectum*.—In each of these states, the uterus is found to be normally situated, as indicated by the sound.

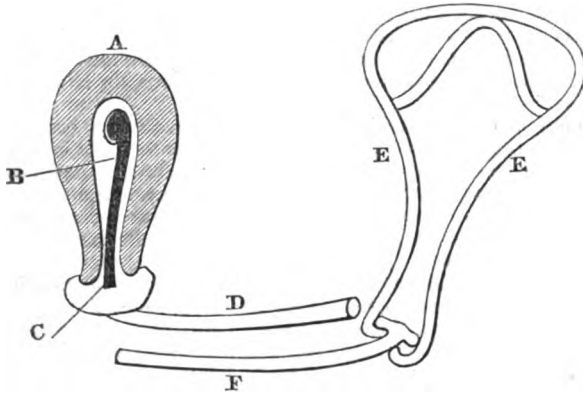
The *organic state* of the uterus in retroversion, is stated by Dr. Simpson to be variable. He has seen it co-existent with fibrous tumour, but more frequently the uterus is merely hypertrophied. In a large number of cases the organ is not at all increased in size, and in some few it has been found even smaller than natural.

The *treatment* of retroverted uterus, as laid down by Dr. Simpson, includes three indications—first, the removal of any coexistent morbid condition of the uterus, as engorgement, and by appropriate means; second, the restoration of the misplaced organ, by means of the sound, and then by the retention of it in its normal situation. This is the most difficult part of the treatment, and requires, in most cases, the support of a special apparatus which Dr. Simpson has devised, and of which we give a sketch below.

This form of uterine pessary is made up of two parts, an internal part, provided with a stem (B), a bulb or ball (C), and a vaginal curvilinear tube (D), and an external part, consisting of a wirework frame (EE), about five inches long and three broad above, gradually tapering to half an inch below. To the lower extremity is attached a curvilinear rod (F), made to fit the vaginal tube (D).

The application of this instrument is as follows: The internal portion is first passed up the vagina, the stem entering the uterus (A), which is then replaced by turning the concavity of the instrument forwards, as in the case of the uterine sound. This being done, the solid vaginal portion (F) of the external part of the

apparatus is slid into the vaginal tube (D), and the framework then comes against the pubes, to which it may be moulded; the two vaginal portions work after the fashion of a trochar and its canula. When required to be withdrawn, the pubic portion is first bent back, then the vaginal pieces unlocked and removed, and lastly, the canula and stem extracted.



It might be expected, and with some reason, that the presence of this stem in the cavity of the uterus would cause inflammatory symptoms, but it appears, from Dr. Simpson's account, that such is the exception rather than the rule; he has seen it worn for six months without inconvenience. In cases which cannot bear the pessary, he contents himself with reducing the irritation by leeches, and belladonna pessaries, followed by tonics. The abdominal bandage with perineal support is also in such cases found to be beneficial.*

—Two cases of retroflexion of the uterus in the unimpregnated state are reported by Dr. Flamm, of Warsaw, but offer no points of special interest. The narrator appears familiar with Dr. Simpson's writings on the subject, but makes no mention of the uterine supporter.†

§ III.—Pregnancy—Labour—The Puerperal State.

9. PREGNANCY.—*Signs of—Obstetrical Auscultation.*—Professor Hohl,‡ of Halle, has contributed an article on this subject, the details of which, from their importance, we give at some length.

Region in which the sounds are heard.—From former observations made on 200 pregnant women, the author determined that the pulsations of the heart are normally heard in the left abdominal region, while the placental souffle is heard oftener on the right side than on the other; these results he further confirms by fresh observations, 500 in number. Of these, in 316 cases of normal presentation, the foetal heart was heard on the left, 159 times on the right. The placental souffle was perceived on the right 256 times, on the left 158 times; on both sides and below 50 times, of which 13 were instances of placenta prævia.

The relations of the two orders of sounds.—In the 316 cases in which the foetal heart was heard to the left, the utero-placental souffle was heard on the right in 256. In the 168 cases in which the souffle was on the left, the foetal heart beat 159 times on the right. The two sounds were on the same side in 102 instances—the souffle was heard below and on both sides 50 times.

The seat of the utero-placental souffle.—M. Hohl places this at the spot corresponding to the insertion of the placenta, for the following reasons:

1st. In 21 cases of artificial delivery, the placenta was fixed where the souffle had been heard.

* The Dublin Quarterly Journal, May 1848.

† Zeitschrift für die Gesamte Med., Feb. 1847.

‡ Neue Zeitsch. für Geburtzkunde, vol. xxii. 1847.

2d. In 15 cases in which the placenta was implanted over the cervix, the souffle was heard very low down.

3d. In 90 cases the insertion was verified by post-mortem examination.

4th. In 8 cases where turning was practised, the seat of the placenta was ascertained by auscultation.

5th. In a case of extra-uterine foetation, the pulsation of the foetal heart being heard on the left side, and the placental bruit on the right, it was found after death that such was the position of the foetus and the after-birth respectively.

Auscultation in multiple conceptions.—Twins may, according to the author, be always diagnosed, unless one be dead, or the one lie exactly behind the other.

Auscultation in reference to the position of the foetus.—In 290 first occipital presentations, the child's heart was heard to the left in 281, to the right in 5, not heard at all in 4. The placental bruit was heard to the right in 251, to the left in 30, below in 9. In the second occipital position, the heart was heard on the right side in 132 out of 148 cases, to the left in 10, unheard from death of the foetus in 6. The placental bruit was found 90 times on the left, 38 times to the right, 8 times below, in 12 it was not heard.

From these results it is clear, that in most cases the foetal heart is heard on the left in the first cephalic position, and to the right in the second.

In presentation of the face, the diagnosis is less precise; in 6 cases of first facial position (front to the left), the heart was heard on the left in 3, on the right also in 3. In two cases of second position, the heart beat to the left, the placental souffle was heard to the right.

In shoulder presentation.—In 7 cases of presentation of the right shoulder, head to the left, the back to the front, the heart was heard immediately above the pubis.

The author finally concludes, that though pulsation of the foetal heart is an indisputable sign of its life, the absence of these pulsations is not conclusive of its death. The placental bruit may persist some time after the death of the foetus.

[By a comparison of the above results with those of Depaul ("Abstract," Vol. VI. p. 251), it will be seen that a considerable difference exists in the opinions of the two writers, especially in reference to the site of the placental bruit.]

10. *Foetal Movements.*—There is no opinion concerning the condition of utero-gestation more generally diffused, than that which attributes the movements felt at a certain epoch in pregnancy to active motions of the foetus; and so conclusive has this evidence been considered of the vitality of the child, that operations have been performed solely on the testimony so afforded. In one of his very interesting lectures on the Physiology of Parturition, Dr. Tyler Smith ventures to call this common opinion in question, and to affirm that these movements do not depend upon the foetus, but are true peristaltic movements of the uterus itself. His reasons for thus thinking are these. In the first place, these movements are sometimes felt as early as the fifteenth week, when the possibility of their being produced by the foetus is out of the question. Again, the movements are often so intricate, and points at which the apparent contact of the foetus takes place so numerous, that they could not be produced but by the simultaneous movements of several foetuses. The emotions of the mother also have considerable influence over them, which is more consistent with their uterine than their foetal origin. The same may be said of the effect of cold to the abdomen. The movements are moreover felt when subsequent events prove the child to have been dead at the time, also when the uterus has contained hydatids. On the other hand, they have been absent, and the child consequently pronounced to be dead, when it has been born alive.

Dr. Tyler Smith further remarks, that the foetal limbs are often marked by indentations showing the continued pressure of one upon the other. This is also incompatible with the frequent change of position. Again, asks Dr. Smith, what motor power could excite this, in some cases, almost perpetual motion? Volition, or cerebral voluntary movements, cannot take place before respiration. [Is this certain? Ed.] Emotion is equally wanting: the reflex action too must be obscured by the protection afforded by the liquor amnii, and, moreover, the movements are equally strong in anencephalous foetuses. For the above reasons, the author concludes that the movements are peristaltic and uterine.*

* Lancet, March 11th, 1848.

11. *Kiesterin as a Test of Pregnancy.*—Dr. Golding has published an elaborate paper, in which he seeks to establish the just value of this sign. He commences by noticing in turn the several indications usually relied upon, as auscultation, state of the breasts, suppression of the menses; and he proceeds to the consideration of kiesterin in a series of sections, embracing the several questions of interest connected with its formation.

The presence of the sound of the fetal heart is, of course, the most unequivocal sign of pregnancy; but this is only available after the fourth month. The placental souffle he shows to be less trustworthy. Of the state of the breasts, he observes that no indication can be more equivocal. His conclusions on this point are as follows:

1st. These conditions are equivocal after first pregnancies, seeing that the areola has undergone changes in colour, is increased in size, and has its follicles enlarged; these states remain permanent, though if the mammæ be observed during subsequent pregnancies, these characters may be better marked; it is only comparison, therefore, that will avail for practical elucidation.

2d. If the changes induced by utero-gestation are permanent, diseases of the uterus, by affecting the breasts sympathetically, may induce congestion and other changes in them, similar if not identical with those produced by pregnancy.

3d. In some rare instances, the changes described by Dr. Montgomery are absent even in first pregnancies; the areola remaining unchanged, and the mammæ flabby, till the commencement of lactation.

4th. In persons of fair complexion, the areola may be increased in extent, and have its follicles hypertrophied, without material change of hue.

5th. In those of dark complexion, the areola is naturally of a darker colour, and has its follicles better developed than in fair persons.

6th. During functional derangements of the uterus, the breasts have been noticed to undergo changes not readily distinguishable from those existing during gestation.

In drawing practical deductions from the suppression of the menses, Dr. Golding takes the following circumstances into account:

1st. Whether or no the cause of suppressed catamenia during utero-gestation be due to impregnation; or to other causes, in which, however, certain of the phenomena also attending pregnancy co-exist.

2d. That in some females, the menses are not suppressed during pregnancy or during lactations. The menstruations occurring under such circumstances, whether uterine or vaginal, and whether dependent upon normal or abnormal causes, is attended with the same physiological effects, as in ordinary menstruation, both during its occurrence and accidental suppression.

3d. Any functional derangement of the uterus or other organ reacting upon that viscus may so affect it as to cause suppression of the menses.

4th. Sometimes the menses, though apparently, are not suppressed, being secreted, but not evacuated. The retention may cause vomiting, enlargement of the abdomen, sympathetic affections of the mammæ and stomach, with other effects also concomitants of the gravid uterus.

5th. That however strong a presumptive evidence of pregnancy cessation of the menses may afford, it can never be certain evidence, unless corroborated by auscultation, or the indications afforded by the urine.

After thus discussing the usual signs of pregnancy, and showing the inconclusiveness of each under certain circumstances, the author next proceeds to the main object of his communication, the value of kiesterin as a test.

The chief value he shows to consist in its being available during the whole period of gestation; in its existence alike in first and subsequent pregnancies; its being uninfluenced by the age, temperament, or habits of the female; its being found in pregnancy alone, and disappearing during lactation. When this coexists with amenorrhœa, Dr. Golding looks upon it as the only conclusive evidence of pregnancy before the fifth month.

In his investigation of the cause of kiesterin in the urine, the author examines it under two aspects. 1st, as a secretion of the mammary glands; which are eliminated from the kidneys, not as yet being required for the nutrition of the fetus; 2d, in its identity with milk. He then inquires under what circumstances

its presence is most conclusive of pregnancy; what is the reason of its inconclusiveness, and whether kiestein is ever absent in pregnancy, and if so, whether it is really absent or only obscured by other matters?

The pellicle is determined by him to be most conclusive of the existence of pregnancy; when the maternal and fetal systems are in a healthy condition respectively, it is then rarely absent. He recommends that, in searching for it, the urine examined should be that voided some hours after a meal. Sediments of lithates render the appearance more or less obscure, and therefore the most favourable conditions for finding the pellicle are the healthy state of the mother and fœtus, a non-sedimentary state of urine, and its alkaline reaction.

The reasons of the inconclusiveness of the appearance of the pellicle as a test of pregnancy are thus summed up by the author.

The kiestein, viewed as a secretion from the mammary glands eliminated by the kidneys, is influenced, as other secretions, by those conditions of the system which derange assimilation generally. Such agencies may diminish or entirely suppress the secretion of kiestein; when diminished, it forms a scanty scum on the surface of the urine, or may be entirely absent as long as the general derangement lasts. A plethoric state of the system also, in which the red lithates abound, influences the secretion of kiestein. The pellicle may be absent while the lithates exist, or be so scanty as not to form a uniform film. The yellow lithates do not interfere with its formation to the same extent.

On the question whether kiestein is ever absent throughout the utero-gestation, the author comes to the conclusion that it is occasionally absent, but only temporarily. He does not think that it is ever absent throughout the whole period of pregnancy. The general conclusions derived from his observations are as follows:

1st. Coetaneous with, or shortly subsequent to conception, the breasts assume a secreting action; the product of which, eliminated by the kidney, forms kiestein.

2d. If this action of the mamma be disturbed it is the result of disease, and may be removed by appropriate treatment.

3d. Kiestein, though not apparent, may still not be absent, but may exist in such small quantities as not to be appreciable.

4th. The essential characters of the pellicle are its iridescence, fatty nature, and cheesy odour. It also prevents the urine becoming putrid for some time.

5th. As the secretion of kiestein is a vital phenomenon, resulting from conception, it is often available before other signs of pregnancy.*

12. *Vomiting during Pregnancy*.—Dr. Churchill records a most interesting case, in which a lady, who was on the point of sinking from incessant vomiting, was saved by the opportune induction of premature labour. Every possible means were tried before the adoption of this proceeding, but without avail. Although at the point of death when the fœtus was expelled, and the retching had been incessant, she vomited only twice after the uterus was emptied, and in a fortnight was convalescent.†

—An instance of death from the same cause is reported by M. Forget. Everything was tried but the induction of premature labour, about which French accoucheurs appear to entertain ridiculous scruples. The life of the woman in question was evidently sacrificed to this absurd point of conscience.‡

—M. Trousseau approves of the belladonna frictions recommended by Bretonneau.§ (See "Abstract," Vol. V. p. 252.)

13. *Superfœtation*.—Several additional cases of so-called superfœtation have been recorded. Dr. Horlsbeck mentions one in which two fœtuses were expelled; one of six months, the other clearly not more than of six weeks' gestation. In another, by Dr. Windriff, fœtuses, one of seven months, and another apparently under six, were both born alive, the former being well; the placenta and membranes were distinct. The author thinks the case unique, inasmuch as the fœtuses were born alive.||

—A case, which some may look upon as one of superfœtation, is also nar-

* British Record, Nos. 1, 3, 5, 7. † Ibid. Nos. 1 and 3. ‡ Gaz. Méd. 15 Mars, 1848.

§ Gazette des Hôpitaux, No. 1, 1848.

|| Journal des Connais. Méd., Dec. 1847.

rated by Mr. Newnham. In this instance the woman was prematurely confined of a stillborn fœtus, and another was distinctly found to present, but uterine action ceased, until the completion of her full time, when she was delivered of a full-grown healthy boy.

Mr. Newnham does not consider this to have been a case of superfœtation, but one in which the uterus threw off one of twins conceived at the same time, and which had accidentally died. The practical inferences he draws from the case, that in cases of premature labour, where one fœtus has been expelled, and a second remains in utero, if the membranes of the latter have not been disturbed, and uterine action has subsided, that the practitioner should not interfere, but wait and see if Nature will not remedy the disorder apparently produced. He justly regards this as a more justifiable proceeding than that of delivering artificially.*

14. *Extra-uterine Fœtation.*—Cases have recently been reported by Dr. Watson, of Edinburgh,† Mr. Hyde,‡ and Mr. Dalrymple.§ The first proved fatal by rupture of the Fallopian tube. In the second case, labour-pains came on at the end of the ninth month, after which the abdomen subsided, the woman dying of constitutional irritation after a lapse of two months. The termination of the third case was similar.

15. *Retroversion at the Sixth Month of Pregnancy.*—A case is reported by J. Seddon, Esq., the patient aged 38. First pregnancy, but had previously miscarried once. An attempt was made to restore the womb to its normal position, but failed. At the termination of the sixth month, uterine pains ensued, the funis descending through the os. Without any alteration of the position of the uterus, delivery was effected, which after being completed, another attempt to restore the position of the uterus failed. Seven weeks after, the organ being still retroverted, a third unsuccessful attempt was made. Mr. Seddon is inclined to believe that the difficulty arose from the long displacement of the parts, and the organ accommodating itself to the position.||

16. *Imperforate Vagina—Labour.*—An unintelligible case of this kind is related by Dr. Ogden. The female had no external organs of generation, but a firm tumour was seen at the site of the vulva, caused by the presentation of the foetal head. This was divided, and a child extracted. Two years after, she became pregnant, and the artificial vagina being unyielding, it was again incised, and labour completed. It appears that at the age of 19 she had been operated upon for retained menses, but the attempt to establish a vagina failed. The difficulty in the case is in her becoming pregnant the first time, when she had no vagina or other orifice than the meatus urinarius.¶

17. *Abortion.*—A remarkable case, in which abortion was induced in eight successive pregnancies by the irritation of excessive itching of the skin, is reported by M. Maslieurat. A lady, æt. 32, became pregnant for the first time at 21, but suffered but little from the usual inconveniences of her condition, until the sixth month, when, without apparent cause, she was seized with intense pruritus of the whole surface of the body. The legs, thighs, and genital organs were first attacked; but towards the eighth month, the itching extended even to the palms of the hands and soles of the feet. The rubbing and scratching to which she was irresistibly impelled caused premature confinement, with immediate cessation of the cutaneous irritation. The patient again became pregnant, and, as before, ailed nothing till the sixth month, when the same itching returned. This time she miscarried at seven months. The same series of events occurred in all eight times.**

18. *LABOUR. Induction of Premature Labour.*—A new plan of inducing premature labour has been suggested by M. Agostini, of Venice, which consists of making use of repeated vaginal injections of warm water, taking care to throw the stream with some force upon the os uteri. The operation is repeated every six hours, and continued for twelve minutes.††

—A paper on the induction of premature labour has also been published by

* British Record, No. 8.

† Ibid. No. 3.

‡ Ibid.

§ Lancet, &c.

|| Prov. Med. and Surg. Journal, April 19, 1848.

¶ Brit. Record, No. 1.

** Gazette Médicale, 15 Mars, 1848.

†† Annales de Thérapeutique, Mars 1848.

Mr. Turton; but it contains no suggestion or opinion which can be considered as novel.*

We have now reached a period in our Report in which we can avail ourselves of the extensive fund of information contained in the valuable work by Drs. Hardy and McClintock before mentioned. The first subject noticed by them is—

19. *Natural Labour*.—The authors use this term in the sense given to it by Denman, who considered three circumstances necessary—1st, that the head present; 2d, that the labour be not longer than 24 hours' duration; 3d, that delivery be completed without artificial assistance. The management of such labours being familiar to all, they do not enter at any length upon the subject. They, however, think it necessary to make a few observations on the *use of the binder*, and on *supporting the perineum*.

In the Dublin Lying-in Hospital the binder is considered indispensable. The authors consider that its use promotes the expulsion of the after-birth, and state that in one instance only, during the period embraced in their report, was it necessary to pass the hand into the uterus for its removal.

In guarding the perineum, the authors warn the young practitioner against commencing the support too soon, in his over anxiety. While the perineum is thick and hot, no benefit is derived, but rather the reverse. At this time the authors advise that it be well fomented with a sponge and warm water.

After-pains are treated by a full anodyne at bedtime, with castor oil and turpentine in equal proportions in the morning. If they resist this, a turpentine stupe is had recourse to. The authors verify an observation of the late Dr. Joseph Clarke, that women who suffer from severe after-pains are often the subjects of dysmenorrhœa.

The total number of natural labours embraced in the report is 5,852, of which 1,752 were first pregnancies. The deaths were 16. The chapter contains the reports of 29 cases of more or less interest, including cases of puerperal phlebitis, phlegmasia dolens, erysipelas of the labia, &c.†

20. *Tedious and Difficult Labour*.—Drs. Hardy and McClintock arrange their remarks on this subject under two heads, according as the delay takes place in the first or second stage of labour. This division is practically important in reference to prognosis; for the danger in the first case, supposing the membranes to be unbroken, is inconsiderable, compared to what it is in the second.

In all cases of tedious labour, during the first stage, which have come under the authors' observation, the cause is stated to have been almost invariably a rigid os uteri. This condition was also seen to be more common in primiparæ, and in those in whom the membrane had been early ruptured. The treatment of rigid os uteri, followed in the Dublin Lying-in Hospital, consists chiefly in the exhibition of tartar emetic, venesection, and the warm bath. In point of efficacy, the authors consider bloodletting entitled to the first place; but it is not of so general application as tartar emetic. The patients on whom it was employed were generally robust females with full pulse, the os uteri thin, and the head pressing continually upon it. In such, venesection produced rapid benefit.

Tartar emetic is, however, considered the most generally available, and was given in almost every case in the following form:

R. Ant. potass tart. gr. ij.
Aque destillata, ℥vj.
Tinct. opii, ℥j. M.

Of this a tablespoonful is given every hour, until nausea and vomiting are induced. As it is of importance that labour should be actually commenced before tartar emetic is exhibited, it was not given until dilatation of the os had actually commenced. In doubtful cases bleeding was preferred.

Of opium in spurious pains the authors state that it was never given, unless the spurious character of the pains was distinctly made out, and then not until the bowels had been freely relieved.

The warm bath was not used, unless the other means had failed in inducing relaxation, and not then, if the debility was great, or there was any tendency to

* Prov. Med. and Surg. Journal, Dec. 15, 1847.

† Op. cit., pp. 6-75.

hemorrhage. The authors think from the evidence afforded by two cases, that the warm bath occasionally injures the fœtus.

Of the exhibition of *ergot* in tedious labours, the authors state that the cases in which it was employed may be arranged in three classes. The first includes cases in which the delay arises from uterine inertia, and where, though the head ceases to advance, there is no disproportion between it and the passages. These are the cases which the authors consider most favourable for *ergot*, and it is with reluctance that they give it in any other, for they are convinced that unless the child be delivered within a certain time after its exhibition, it will undoubtedly perish. The time during which it is safe to act can only be determined by auscultation; but on this subject we cannot do better than refer the reader to a paper by Dr. Hardy, which is to be found in a former Volume. ("Abstract," Vol. I. p. 184.)

The second class of cases embraces those cases in which the fœtal head is arrested without any pelvic deformity to account for it. The third includes those instances in which unfavourable symptoms calling for delivery manifested themselves while the fœtal heart was still audible, but where the forceps or vectis was inadmissible, from want of space, and from the state of the soft parts being such as would render their employment hazardous, exposing the patient to the risk of laceration and sloughing.

The dose of *ergot* usually employed by the authors is half a drachm of powder, infused in a small cupful of boiling water for minutes, to which, after straining, ten grains more of the powder were added.

The next point connected with tedious labour which the authors touch upon is the use of instruments, premising what they have to say upon the subject by some valuable observations on the general importance of obstetric auscultation, and its particular applicability to the questions in debate.

Vectis.—This instrument was often substituted for the forceps, and was applied strictly in accordance with Denman's directions. Where internal action had entirely ceased, and in certain convulsive cases, the forceps was preferred.

Forceps.—The short straight forceps has been exclusively used in the Dublin Lying-in Hospital for a period of seven years. The conditions which were supposed to call for its use are stated to be these:—

1st. That the child be alive; when the child is dead the forceps is never employed.

2d. That the head remain stationary within reach of the forceps for six hours at least.

3d. That the membranes be ruptured, and the os uteri fully dilated.

4th. That the ear can be distinctly felt; this the authors consider to be an essential condition for the safe and successful application of the instrument.

5th. That the state of the soft parts denotes the absence of inflammation.

The long forceps was seldom or never used. The occasions on which the perforator and crotchet were employed may be surmised from the tenor of the authors' remarks on auscultation, *ergot*, and the forceps.

The total number of tedious labours included in the report are 259; of these 173 were delivered without instruments; of this number 30 took *ergot*, on account of uterine inertia in the second stage of labour, and only 10 out of the 30 children were born alive; this, as the authors remark, furnishes strong proof of the deleterious influence of *ergot* upon the fœtus, as in nearly every case there was unequivocal evidence of the child's vitality when it was given, and in the great majority delivery took place within two or three hours after its exhibition.

In 52 cases the perforator and crotchet were used; in 18 the forceps; in 16 the lever, or vectis.

Of the 259 women, 22 died, 19 of whom were primiparæ.

This section, like the last, is followed by the narrative of the most interesting cases which presented themselves during the period embraced by the Report.*

—A case of tedious labour, from complete ossification of the bones of the fœtal cranium, occurred recently in the practice of Mr. Gosset, by whom it is recorded. Turning was attempted, but, as the head could not be extracted, it was perforated through the mouth, and broken up. The mother died of phlebitis.†

* Op. cit., pp. 73-161.

† Lancet, Jan. 8th, 1848.

21. *Pretermal Labours*.—Drs. Hardy and M'Clintock's practice in breech and footling presentations is to leave the entire business to Nature until the child is expelled as far as the umbilicus, or, if the breech is the presenting part, until the feet have cleared the os externum; this plan insures a more full dilatation of the parts. The funis is next drawn down, and if pulsating strongly, or, if putrid, they wait for a pain, in order that the shoulders may enter the brim before they attempt to bring down the arms. In doing this they always disengage the arm next the pelvis first, and in other respects follow the usual directions laid down by authors. At the close of the process, however, they vary somewhat from the ordinary practice, for instead of simply extracting the head with the right hand, the occiput is at the same time steadily pushed up with the index finger. This is a practice which, though fully appreciated by Smellie, has been overlooked by later writers. The object of the manœuvre, together with that of depressing the chin, is to bring the head into the most favourable position for passing through the pelvis, by causing the occipito-bregmatic to be the moving diameter, and thereby to obviate delay. In cases of premature birth, the authors do not interfere with the arms.

The total number of pretermal presentations met with in the Hospital were 227, of which 101 were breech.* Of these, 37 children were born dead, and three of the mothers died.

Respecting arm and shoulder presentations, the authors' remarks are brief. They deprecate the practice of turning in cases of great difficulty, and where the child is clearly ascertained to be dead; and recommend evisceration and delivery by the crotchet in preference. They have seen much benefit from the relaxing effect of tartar emetic in some cases, given in quarter-grain doses. It is, indeed, their usual practice, in all such cases, to give it before the os is fully dilated, to favour dilatation and constant uterine action. The authors' remarks on the operation of turning we shall give at a future page.*

22. *Complex Labours*.—Under this head Drs. Hardy and M'Clintock comprise hemorrhage, convulsions, rupture of the uterus, plurality of children, and funis presentations.

23. *Accidental and Unavoidable Hemorrhage*.—The authors insist upon the importance of an accurate acquaintance with the distinguishing characters of these forms of uterine hemorrhage. The essential difference, as usually laid down, depending on the site of the placental detachment, does not, in the authors' opinion, always point out a corresponding difference in practice, nor is it always easy to distinguish between the two at the commencement of the bleeding. In doubtful cases, the authors have sometimes been materially assisted by auscultation, the placental bruit indicating the locality of the placenta; but these cases are admitted to be exceptional. They allude to two signs pointed out by Gendrin as indicative of unavoidable hemorrhage, namely, pulsation at the os uteri, not synchronous with the maternal pulse, but with the rapid beats of the fetal heart, and the impossibility of producing ballotement. For the first of these they have no confidence, but they have on several occasions recognised the latter.

In the treatment of accidental hemorrhage before delivery, the authors rely upon the established practice of puncturing the membrane, if the discharge of blood resists ordinary means. After this has been done, and the bleeding checked, they consider it an advantage that labour should be postponed if the woman be much exhausted, and they have given a full opiate with much benefit.

24. *Unavoidable Hemorrhage*.—Before the os uteri is sufficiently dilated to allow of delivery by turning, the authors have recourse to plugging the vagina, from which, when properly performed, they have derived the best results. Of materials generally employed for this purpose, they give the preference to a silk pocket-handkerchief dipped in oil. They caution the practitioner against leaving the plug in longer than twenty-four hours, and during its retention they insist upon the necessity of paying attention to the state of the bladder, &c.

Of turning in placenta prævia, they advise, in common with the best authorities, that no attempt should be made until the os is sufficiently dilated to offer no material impediment to the hand.

* Op. cit., p. 190.

25. *Expulsion of Placenta before the Child.*—The authors have had no experience of Drs. Simpson and Radford's plan of extracting the placenta before the child, but by the tenor of their remarks they are evidently unfavourable to it.*

26. *Opium in Uterine Hemorrhage.*—The remarks of Drs. Hardy and M'Clintock on this point are full of practical interest. They lament, with justice, that practitioners appear to have no fixed principles to guide them in the administration of this drug, and that such opposite opinions are entertained respecting its utility. The perplexity attending the expression of such different opinions as have been recorded may, the authors believe, be greatly removed, by bearing in mind the following uses which opium is qualified to fulfil:—First, it is capable of acting as a powerful general stimulant, and supporting life under circumstances of extreme collapse; for this large doses are required. Secondly, opium possesses the power of arresting uterine contraction, for which purpose it must be given in doses above the ordinary strength. From a consideration of these properties, and a practical knowledge of its effects, the authors state that, in unavoidable hemorrhage, it holds out a prospect of benefit when there has been an alarming loss of blood before the state of the os admits of turning. In this kind of case the opium, they observe, acts in two ways—by recruiting the patient's strength, and by diminishing the hemorrhage, by suspending uterine action.

Another case, in which the authors have noticed the advantage of opium, is when the os uteri is fully dilated; but the prostration is so great that there is a dread of further interference. In such a case, a full dose of opium quiets the patient, and, by allowing time to give nourishment, contributes to the rallying of her powers.

The number of cases of uterine hemorrhage embraced in the Report is 37, of which 8 were unavoidable. (pp. 191-203).

27. *Hemorrhage after Delivery—Preventive Treatment.*—When a predisposition to post-partum hemorrhage is known to exist, a certain course of preventive treatment is adopted at the Dublin Lying-in Hospital, which is described by Drs. Hardy and M'Clintock under three heads, viz., maintenance of a quiet state of the circulation at the time of delivery; a judicious management of the second stage of labour; and, lastly, under certain circumstances, the exhibition of ergot. Of the latter of these, the author remarks that it is most efficacious, and that it may be given at one or other of these periods, viz., when the head of the child is on the perineum, and about to be expelled; immediately after the head has cleared the os externum; and, thirdly, as soon as the insertion of the cord can be felt. Dr. Johnson, a former physician of the Dublin Hospital, prefers the latter time.

Of hemorrhage between the birth of the child and the expulsion of the placenta, the authors consider it unnecessary to speak at any length in respect of the causes—their treatment is to grasp the uterus externally, and thus assist it in expelling the placenta; they prefer this to the endeavour to extract the placenta by introducing the hand. They, however, admit that in some cases the hemorrhage may be so profuse as to render the latter proceeding necessary, as the quietest way of emptying the uterus.

Hemorrhage after the expulsion of the placenta is almost always referable to a want of contraction of the uterine fibres, from atony, or the distension of the organ by clots, and in some rare cases from polypoid growths, &c. In the treatment of hemorrhage at this period, the chief means mentioned by the authors are friction and pressure, the application of cold, ergot, and electro-magnetism, and the introduction of the hand into the uterine cavity.

Of pressure, they speak in high terms of commendation. The pressure is to be kept up steadily, taking care, if for the purpose of extruding clots, to get the edge of the hand behind the fundus, and to press downwards and backwards.

Cold is applied by them by dashing a wet towel on the pudenda, nates, and sacrum; they agree with Dr. Lee, that this means is as efficacious, and less objectionable, than pouring cold water from a height upon the naked abdomen. They have also seen benefit from cold enemata; of cold injections into the womb they have had no experience.

Ergot of rye is extensively used in the Dublin Hospital in this form of hemor-

* Op. cit., pp. 200 *et supra*.

rhage; but the authors have found that, from its depressing influence, it is not admissible when the patient is much reduced.

Of the introduction of the hand into the uterus, the authors remark that it is dangerous in two ways—first, it may extinguish life if the woman be much exhausted; and, secondly, it renders her very liable to be attacked by phlebitis. Dr Lee entertains the same opinion, and expresses himself still more strongly.

Electro-magnetism is favourably spoken of, as far as the authors' experience warrants them in forming an opinion. The readers of the "Abstract" are, doubtless, fully prepared to admit the powers of this agent, from the testimony of Dr. Radford, Mr. Dorrington, and others, to whose papers we refer them. (See Vol. I., p. 173, &c.).

In the fulfilment of the second indication, that of sustaining the powers of life, the authors' observations respecting the case of stimulants and opium, regulations of the temperature, &c., are eminently judicious.

They make no mention of transfusion, which, we are disposed to think, should always be resorted to when other means fail. Our Extracts contain a very instructive example of its success. (Art. 88.)*

—While on the subject of hemorrhage, we may direct our reader's attention to an elaborate essay by Mr. Newnham,† which we shall reproduce in our next Volume, and also to cases by Mr. Griffin‡ and Mr. Christie.§

28. *Spontaneous Evolution*.—Two or three additional instances of spontaneous evolution of the fœtus have been put on record subsequently to the date of our last Report.

—Mr. Edwards relates the case of a female, to whom he was summoned in her third labour. On examination, the os uteri was found to be fully dilated, and the arm of the child protruded from the vagina. He proceeded to turn, but the feet could not be brought down, in consequence of the vehemence of the uterine contractions. Under these circumstances, as symptoms of exhaustion began to declare themselves, it was resolved to use the perforator; but, before the instruments could be got ready, the woman passed a large quantity of fœces, and immediately the arm disappeared, and the breech presented. Two or three pains expelled the child, which had evidently been dead some time.||

—Dr. Copeman relates an instructive case of back presentation, with partial spontaneous evolution, which we give considerably condensed. The woman was a delicate person, suffering under mental anxiety, and fearing, from her unusual sensation, that the presentation was not natural. On his first visit, Mr. Copeman could not make out the presentation; but some hours after ascertained that the back was the presenting part, without, however, being able to determine the position of the head or extremities. While preparing to turn, he was surprised to find the back of the neck and shoulders forced into the pelvis. Fearing now that turning would be difficult, he endeavoured to pass his hand over the right side of the child towards the pubes; but while doing so he felt the child recede, and therefore contented himself with raising the pelvis, while the pains forced down the occiput. He thinks, with apparent justice, that had he waited longer the evolution would have been completed without assistance. The case terminates with some excellent practical remarks, for which we have not space.¶

—A third case is related by Mr. Ion,** a fourth, by M. Boureau;†† a fifth, by Mr. Davies;‡‡ and a sixth, by Dr. Borrett.§§

—Drs. M'Clintock and Hardy state that they have never witnessed the process of spontaneous evolution, as described by Denman, but they have seen several instances of premature births, in which arm presentations were born by the unaided efforts of Nature. In two or three of these cases, the arm remained stationary till after the birth of the breech and legs; in the others, the fœtus was expelled doubled on itself, but the arm did not recede; so far confirming Dr. Douglas's views of the manner in which the process is brought about.||||

* Op. cit. p. 234.

† Ibid., Nos. 5 and 7.

‡ Lancet, Jan. 8, 1848.

** Lancet, Jan. 29.

†† British Record, No. 7.

‡‡ Op. cit., p. 183.

† British Record, No. 5.

§ Ibid., No. 11.

¶ British Record, No. 5.

‡‡ Encyclograph. Méd., Feb. 1848.

§§ Ibid., No. 9, 1848.

29. Retained Placenta.—The introduction of the hand for the removal of the placenta is justly regarded by Drs. Hardy and M'Clintock as a proceeding not to be adopted without imperative necessity, and, in hospital practice more especially, often productive of fatal consequences. These authors differ from those who recommend the exhibition of ergot in delay of the placenta. In the Dublin Hospital it was their invariable rule not to exhibit this medicine in the third stage of labour, until the placenta was completely detached. Their reason for this is the impossibility of diagnosing, in each instance, the precise cause of the retention; and, under some circumstances, the action of the medicine would only aggravate the case.

From the great liability to the occurrence of phlebitis after manual extraction of the placenta, it is usual, in the authors' practice, to put the patient under a mild mercurial course immediately after delivery. If any bad symptoms occurred, this was followed by increased activity; but if nothing unfavourable appeared on the third day, the mercury is omitted. This strikes us as a practice worthy of further publicity.

—A case in which the placenta was retained five months is reported by Dr. Hitchcock, in the "Boston Medical and Surgical Journal." The woman aborted at six months; but, on account of some misrepresentation on the part of the attendants, the after-birth was not removed. From this time she had repeated hemorrhages; and when seen by the narrator of the case was greatly exhausted. Suspecting either polypus, or, from the history of the case, that the placenta had been retained, he examined, and found the latter surmise to be correct, by removing a condensed placenta of a pound in weight.

30. Rupture of the Uterus.—Drs. Hardy and M'Clintock's chapter on this complication of labour is worthy of the most careful perusal. They commence with the premonitory signs of the accident, which are thus laid down. The possibility of rupture of the uterus may be suspected—

1st. When there are grounds for suspecting the existence of deficiency of space in the hard passages.

2d. When a fixed local pain has existed for any length of time during pregnancy, it should be viewed with apprehension, as Dr. Murphy has ascertained that rupture of the uterus may, in most cases, be traced to lesions already existing, or induced by inflammation.

3d. When, during labour, there are constant and violent uterine efforts after rupture of the membranes, without a corresponding advance of the fetal head. The authors believe that rupture never takes place previous to the escape of the waters.

4th. The occurrence of a crampy pain in the hypogastrium is looked upon by Mr. Robertson as a sign of considerable value.

In the management of threatened rupture, the authors endeavour to mitigate the violent uterine action by a full bleeding, followed by an opiate. Tartar emetic is also sometimes given.

The symptoms which indicate rupture of the uterus are—

1st. A sudden acute pain, totally different from labour pains.

2d. Vomiting of the ingesta, and subsequently of coffee-ground liquid. When this happens, it comes on suddenly, and is accompanied by other signs of ruptured uterus.

3d. Collapse, as in rupture of other internal organs. This, the authors remark, is not an invariable symptom; and they record a case in which the patient walked up stairs into the ward after riding some distance.

4th. A distended and painful state of the abdomen.

5th. Sudden cessation of labour-pains. This does not always ensue, as in some cases the child has been expelled by natural efforts after the rupture has taken place. On the other hand, the labour-pains are known to subside suddenly from various causes.

6th. Hemorrhage from the vagina. This symptom is not regarded as worthy of confidence as diagnostic.

7th. Recession of the presenting part. This they believe cannot take place to any extent, unless rupture has taken place.

8th. The limbs of the child discernible in the peritoneal cavity. When present,

the authors state that this sign is demonstrative; but it may be absent, as the *fœtus* may not escape in some instances.

The fact that the *fœtus* almost invariably perishes soon after the accident also furnishes a source of diagnosis. If in a doubtful case the *fœtal* heart is audible some time after the supposed rupture, it may be considered to negative the supposition. An instructive case in point is related.

The treatment of ruptured uterus is divided into two periods, viz., before and after delivery. Respecting the former, the authors' observations are, for the most part, in accordance with generally received authorities, viz., to deliver as speedily as possible. As the child is generally dead, perforation is preferable to the forceps. In the after-treatment they trust to opium.*

—Cases of rupture of the uterus have recently been reported by Dr. Coley,† Mr. Brownhill,‡ and by Dr. Smallwood§ (U. S.). Dr. Coley's patient recovered; the other two were fatal, the latter after four days.

—An elaborate essay is in the course of publication by Dr. Trask, in the "American Journal of the Medical Sciences," and Dr. Clay is engaged in reprinting the well-known and important memoir on the same subject by Crantz. We shall give some account of both these in our next volume.

31. *Operative Midwifery—Cæsarean Operation.*—We have two successful cases of this severe operation to record: the first by Mr. Goodman, the details of which, though it occurred some time back, have only recently been made public; the other is narrated by Dr. Valentine Mayer.

Mr. Goodman's case is prefaced by some remarks on the history of the operation, and a table, which we give (p. 273), of all the instances of the operations performed in the British Islands, with their results.

The extreme fatality of the Cæsarean operation is strongly shown in the table, from which it appears that three mothers only recovered, and but one child. The case of Mrs. Sankey is as follows:—

She was the mother of three children, subsequently to which she became the subject of *mollities ossium*. Her general health, however, was kept good, and she was cautioned against becoming again pregnant. This injunction was not attended to, and Mr. Goodman, in November 1845, received notice that labour had commenced. Examination proved the pelvis to be contracted to a formidable extent, the promontory of the sacrum being propelled downwards, so as to diminish the antero-posterior diameter, and the ischia having become so nearly approached, as together to produce on the outlet the figure of 8. The principal passage was discovered to be seated superiorly between the promontory of the sacrum and the converging *ossa ilia*; and its greatest diameter from one projection of the bone to another was not more than one inch and a quarter; the least, not more than one inch; and these could only be reached by the finger with the greatest difficulty. The *os uteri* could not be touched by any manipulation. The remaining passage was contracted to about three quarters of an inch; and the external outlet was also considerably diminished by the junction of the *ossa ilia*. Having fully explained to the husband the true nature of the case, and impressed upon him the utter impossibility of effecting delivery by the natural means, and that the only chance of saving the life of either the mother or the child was by resorting to the Cæsarean section, Mr. Goodman suggested the propriety of procuring a second opinion for the purpose of corroborating his statements, and Dr. Radford was accordingly fixed upon.

Upon Dr. Radford's arrival, and after due preparations had been effected, Mr. Goodman proceeded to make the necessary incisions, about 3 A. M. The other integument was divided by an incision of about nine inches in length, passing a few lines on the left side of the *linea alba* and umbilicus. This being effected, the uterus was freely and fully exposed, and he immediately made an incision in its walls to the extent of its former opening; the margin of the placenta was ascertained to correspond with the incisions. Dr. Radford seized the infant whilst he dislodged the head from the uterine cavity; and thus a fine living child was preserved from certain death.

* Op. cit.

‡ Prov. Journal, Dec. 29.

† Brit. Record, No. 11.

§ Brit. Amer. Jour., Jan. 1848.

TABLE OF THE CÆSAREAN OPERATIONS PERFORMED IN THE BRITISH ISLANDS, WITH THEIR RESULTS.

No.	Hours in Labour.	Date.	Died Mother.	Died Child.	Recovered Mother.	Recovered Child.	Operator.	Patient's Name.	Locality.	Where recorded.
1	12 days	1736	Dead	Dead	Recovered	Recovered	Mary Dunnally	Alice O'Neal	Ireland	Edinb. Med. Essays, vol. v.
2	5 days	1738	Dead	Dead	Recovered	Recovered	Mr. Barlow	Jane Foster	Blackburn	Med. Rec. and Research.
3							Mr. Knowles	Mrs. Sankey	Birmingham	Trans. Prov. Asso., vol. iv.
4		1845	Dead	Alive	Recovered	Recovered	Mr. Goodman		Manchester	Brit. Rec. of Obstetrics, vol. i. and Medical Times.
5	7 days	1737	Dead	Dead			Mr. R. Smith	Patterson	Edinburgh	Smellie's Midwifery, vol. III.
6		"	Dead	Dead			Professor Young		"	NBS. Lectures.
7		"	Dead	Dead			Dr. White		"	Hull's First Letter.
8		1740	Dead	Dead			Dr. Cooper	M. Rhodes	Manchester	Hull's First Letter.
9	24 hours	1739	Dead	Dead			Mr. Thompson	Ediz. Foster	Edinburgh	Hull's First Letter.
10	24 hours	1774	Dead	Dead			Mr. Cooper	Ediz. Clarke	London	Hull's First Letter.
11	13 days	1774	Dead	Dead			Mr. Chalmers		"	Hull's First Letter.
12	13 days	1776	Dead	Dead			Mr. White		Edinburgh	Hull's First Letter.
13	3 days	1777	Dead	Dead			Mr. Althinson	E. Hatchison	Glasgow	Hull's First Letter.
14	8 days	"	Dead	Dead			Dr. Hull	Ish. Redman	Leicester	Hull's First Letter.
15	13 hours	1794	Dead	Dead			Dr. Hull	Ann Lee	Wellington	Hull's First Letter.
16	10 days	1796	Dead	Dead			Dr. Hamilton	J. Douglas	Manchester	Hull's First Letter.
17	3 days	1798	Dead	Dead			Dr. Hamilton		Edinburgh	Hull's First Letter.
18	3 days	1798	Dead	Dead			Mr. Wey	E. Thompson	Forfar	Hull's First Letter.
19		1799	Dead	Dead			Mr. John Bell	S. Holt	Manchester	Hull's First Letter.
20		1800	Dead	Dead			Mr. Wey		Edinburgh	Hull's First Letter.
21		"	Dead	Dead			Mr. Wey		Manchester	Hull's First Letter.
22		"	Dead	Dead			Mr. Wey		Manchester	Hull's First Letter.
23	24 hours	"	Dead	Dead			Mr. Wey		Manchester	Hull's First Letter.
24		"	Dead	Dead			Mr. Wey		Manchester	Hull's First Letter.
25		1817	Dead	Dead			Mr. K. Wood	A. Heeking	Manchester	Hull's First Letter.
26		1821	Dead	Dead			Barlow and Cort	M. Ridge	Manchester	Hull's First Letter.
27	18 hours	1821	Dead	Dead			Dr. Henderson	M. Ashwell	Manchester	Hull's First Letter.
28	34 hours	1821	Dead	Dead			Dr. Radford	M. Ashwell	Manchester	Hull's First Letter.
29	19 hours	1826	Dead	Dead			Dr. Radford	M. Ashwell	Manchester	Hull's First Letter.
30	6 days	1826	Dead	Dead			Dr. Radford	M. Ashwell	Manchester	Hull's First Letter.
31		1829	Dead	Dead			Dr. Radford	M. Ashwell	Manchester	Hull's First Letter.
32		1829	Dead	Dead			Dr. Radford	M. Ashwell	Manchester	Hull's First Letter.
33		1829	Dead	Dead			Dr. Radford	M. Ashwell	Manchester	Hull's First Letter.
34		1829	Dead	Dead			Dr. Radford	M. Ashwell	Manchester	Hull's First Letter.
35		1829	Dead	Dead			Dr. Radford	M. Ashwell	Manchester	Hull's First Letter.
36		1829	Dead	Dead			Dr. Radford	M. Ashwell	Manchester	Hull's First Letter.
37		1829	Dead	Dead			Dr. Radford	M. Ashwell	Manchester	Hull's First Letter.
38		1829	Dead	Dead			Dr. Radford	M. Ashwell	Manchester	Hull's First Letter.

The placenta was removed as rapidly as possible, and by moderate pressure he succeeded in reducing the uterus to its proper locality.

The disarranged intestines were restored to their normal position by Dr. Radford, whilst the external wound was closed with the interrupted suture, without attempting the application of any ligatures to the uterus. It is scarcely necessary to state, that the ordinary dressings of adhesive plaster and bandage were applied. In an hour or two it was perceived that a portion of intestine protruded between two of the sutures, which was immediately and carefully reduced. On the following day the symptoms were by no means severe, the pulse being 90, tongue clean, skin moist, and the urine evacuated; had some sleep, and the infant was doing well. On the 21st, no alvine evacuation had occurred, but there was vomiting of a black and coffee-coloured fluid. An enema of spir. terebinth. and gruel was given, and not acting, was followed by a magnesia draught, which had the desired success.

The patient's state on the 23d, the second day after the operation, was satisfactory, but the sutures gave way, and exposed the intestines to an extent of six inches; these were speedily covered with lymph, and granulation commenced, and the wound was again brought together. Things progressed favourably till December 6th, when, from imprudently taking some ingesta, which gave rise to flatulence, the adhesions gave way a second time, and bowel protruded. This portion became much distended, and symptoms of strangulated hernia ensued, which were only relieved by the formation of artificial anus.

This untoward complication now occupied all the attention of the patient and her attendants, and many plans were fruitlessly adopted to induce its obliteration. Under a contrivance by Mr. Goodman, it had, however, materially contracted in its dimensions, when, to his grief, it was discovered that the unfortunate woman was again pregnant.

We shall not follow the author through his reflections under this calamity, but content ourselves with the remark, that the course ultimately adopted scarcely required the amount of deliberation apparently bestowed upon it, as but one plan, that of inducing abortion, could be entertained; a second Cæsarean operation being out of the question. For this purpose, ergot, savine, &c., were administered, without inducing uterine action, which, however, ensued spontaneously a month after the discontinuance of the medicines, and a fœtus of two months was aborted. The placenta was detained until the third day, and was then removed in a putrid state by the use of some force. Under these circumstances, it is not a matter of surprise that the woman died with symptoms of uterine inflammation.

Post-mortem examination.—On inspecting the body, an orifice, the size of a pin-point, was discovered in the situation of the original wound, and the linen around it was moistened by about six drops of slightly coloured serous fluid. On opening the abdomen, a general glueing and matting together of the arch of the colon and omentum to the adjacent intestines (in an area of the extent of eight or nine inches), and to the cicatrized skin of the abdomen, was observed; which, as will be remembered, was developed from, and healed upon, the exposed peritoneal covering of these viscera. Much flatulent distension of the colon existed, and it was fully proved that no Cæsarean section could have been again performed. The agglutination of the parts through which the incision must have penetrated, rendered the performance utterly impossible. It would have been necessary (as it was in simply opening the body after death) to have dissected the skin from the subjacent omentum; and the dissection must have been continued until the whole of this latter had been completely separated from its adhesions to the smaller intestines; and they, also, would have required separating from each other, before the uterus could have been exposed. Fatal as the case had proved, we could not avoid a feeling of satisfaction that the measures adopted had been directed towards the induction of abortion, instead of reserving the mother for an operation, which would have proved fatal in the very hour of performance. The gall-bladder and duodenum were distended with black bile; and the uterus was empty, and considerably congested at its fundus. The cicatrix of the original incision into the uterus was well defined, and there was no adhesion of the fundus to any adjoining viscera. There were no other decided marks of inflammatory action.*

* Brit. Record, Nov. 4 and 6; and Medical Times, May 10th.

—Dr. Mayer's case is that of a female, æt. 29, who had for some time experienced a pain in the sacral region, particularly at the menstrual periods. A tumour was discovered, attached to the sacrum, which encroached upon the vagina and rectum. She was lost sight of from this time until January 5, 1846, when she came back to the hospital in the eighth month of pregnancy. She was again examined, and the tumour found to have enormously increased, filling the vagina, and pushing the perineum outwards; the outlet was also occupied by a continuation of the tumour; the os uteri could with difficulty be felt under the pubes.

Under these circumstances, when labour commenced, the Cæsarean operation was resorted to as the only resource. The infant was extracted alive; the other steps of the operation were satisfactorily performed. The woman went on favourably until the 29th day, and was considered safe as regarded the operation, when she was seized with acute pain in the sacral region. The vaginal tumour increased rapidly, and was distinctly ascertained to be cancerous. From the effects of this she sunk on the 145th day after the operation.*

32. *Turning as a Substitute for Craniotomy in Contracted Pelvis.*—We gave a brief outline of Dr. Simpson's recommendation of this substitution in our last Report. We have here the opportunity of referring to it more in detail, as given in a series of papers published in the "Provincial Medical and Surgical Journal," and the great advantage afforded by the proposed practice, is said to be the substitution of extraction of the infant by the feet, for its extraction by the crotchet; the delivery of it by the hand of the accoucheur, instead of by instruments; the lateral compression of the head by the sides of the pelvis, instead of the more dangerous oblique or longitudinal pressure by the forceps; and, above all, the transient and not necessary fatal depression of the flexible skull, for the deadly perforation of it. In the first two sections of his long essay, Dr. Simpson records the cases, and affords evidence suggestive of the proposed practice, chiefly based upon the fact, that in certain instances of labours, in which all the children presented by the head were lost, a living child has been born when it presented footling.

The reason of this he next examines, in a chapter on the "Principles of the Proposed Practice," in which he enters with minuteness into certain details respecting the conical form, and particular admeasurements, of the foetal cranium. His observations are recapitulated in the following conclusions:

1st. The foetal cranium is of a conical form, enlarging from below upwards, and when the child passes as a footling presentation, the lower and narrower part of the cone-shaped head is generally small enough to engage in the contracted brim.

2d. The hold which we have of the protruded body of the child, after its trunk and extremities are born, gives us the power of employing force sufficient to make the elastic sides of the upper and broader portion of the cone, the bi-parietal diameter of the cranium becomes compressed, and, if necessary, indented between the opposite sides of the pelvic brim, to such a degree as will allow the passage of the entire head.

3d. The head, in being dragged down into the distorted pelvis, generally arranges itself, or may be artificially adjusted, so that its narrow bi-temporal instead of broad bi-parietal diameter becomes engaged in the most contracted pelvic diameter.

4th. The arch of the cranium is more readily compressed into the flattened form by having the former applied, as in footling presentations, directly to its lateral surface, than as in cephalic presentations to the lateral and upper surfaces of the arch.

5th. The duration of labour, and the sufferings of the mother, are greatly abridged by turning, when used as an alternative for craniotomy and the long forceps. The truth of the latter proposition is shown in the fourth section.

In the fifth section, Dr. Simpson considers the relative periods of labour at which the long forceps, perforation, and turning are respectively employed, and shows that as the mother's danger, as well as that of the child, increases with the duration of the labour, and that the circumstances which are considered to justify the use of perforation more especially, do not concur until a late period, while turn-

* Thèses de Strasbourg, No. 7; Archives Générales, Mars 1846.

ing is justifiable at an early period, the latter is, on this account alone, a preferable substitute, and still more so that it gives the child a chance of life, which is to a certainty abolished by craniotomy. In order to exhibit these particulars, Dr. Simpson narrates two cases from the practice of Dr. Lee, and seven from that of Dr. Collins.

In the sixth section, Dr. Simpson's object is to demonstrate that the indentation produced by forcible extraction of the fetal head through a contracted pelvis, is not incompatible with life, the establishment of this point being necessary to the argument. This he does by the relation of several cases.*

[We had arrived thus far in our analysis of Dr. Simpson's essay, when we found that it had not been completed. Under these circumstances, we are compelled to stop somewhat abruptly, but shall not fail to give the remainder as soon as it appears. Anything which can obviate the necessity for the barbarous operation of craniotomy, must be acceptable to the heart of the feeling practitioner in midwifery; and to have a man of Dr. Simpson's experience thus coming forward in the cause of humanity, is in itself an indication, that we may reasonably hope that the day will arrive when craniotomy will be a very exceptional operation.]

33. THE PUERPERAL STATE. *Puerperal Fever*.—Drs. Hardy and M'Clintock's observations on this fatal disease are so replete with available information, that we shall notice them at some length. They state what is now generally acknowledged, that "puerperal fever" is a complex affection; but that its most frequent pathological cause consists in uterine phlebitis. That this should be the case is not surprising, when we consider that the uterus after parturition is exposed to two of the most frequent causes of phlebitis, namely, mechanical injury of its veins, and the contact of noxious matter. In this respect, in the words of Dr. Ferguson, the interior of the uterus is in the same condition as respects the occurrence of phlebitic inflammation, as an amputated stump. The cases which most frequently determine this fatal inflammation, are stated to be:

1st. Mechanical injury to the uterus by introducing the hand, instruments, &c. No operation is more to be dreaded in hospital practice, than extraction of the placenta.

2d. The detention of portions of the after-birth, which gives rise to a foul discharge, the absorption or contact of which irritates the patient's veins.

3d. Hemorrhage. Loss of blood promotes absorption, and moreover tends to induce a flaccid state of the uterus. It is thus explained why puerperal fever so often follows placenta prævia, two causes—hemorrhage, and the irritation of the hand in turning—being in operation.

4th. Epidemic influence.

The author also allows contagion in its fullest sense.

In speaking of the symptoms, the authors notice their analogy to those of ordinary phlebitis, and consisting of those indicating the local affection, and a second process characteristic of the poisoning of the blood. They consider that it is unfortunately seldom possible to pronounce with certainty on the existence of uterine phlebitis until the second order of symptoms make their appearance, although there may be sufficient ground for suspicion. The symptoms which should excite alarm are, uterine tenderness and pain, preceded by a rigor, foul tongue, depraved or scanty lochial discharge, cessation of milk, rapid pulse. Of these the *rapid pulse is the most constant*, uterine pain may be absent, or only perceptible upon deep lateral pressure, which should never be neglected in doubtful cases.

When fully developed, which it becomes without any abrupt passage from one to the other stage, the disease may be known as follows: the occurrence of rigors, not traceable to any other cause; rapid pulse; peculiar physiognomy; visible arterial action; loss of appetite; profuse perspiration; diarrhoea; sleeplessness; foul tongue; nauseous smell from the breath; muscular tremors; low delirium. Upon these symptoms the authors make the following comments:—

Rigors.—This is a characteristic symptom, but may arise from milk fever, &c. When it happens twice or oftener in the twenty-four hours, it almost unequivocally denotes phlebitis. The authors regard this symptom as one which should cause the greatest alarm in the puerperal state.

* Prov. Med. and Surg. Journal, Dec. 1847; Jan. and Apr. 1848.

Pulse.—A short time before the rigor, the pulse usually falls in frequency. On the reaction which follows the shivering, it is considerably accelerated, but generally subsides in a few hours to its former standard. It has generally a sharp, vibrating feel under the finger. Generally, the first symptom of improvement was the subsidence of this sharpness in the pulse.

Diarrhœa and a tympanitic state of abdomen are very constant symptoms in the second stage of phlebitis. Even where diarrhœa was absent, the authors have observed an irritability of bowels which required great care in the regulation of the diet and medicine. In restraining the diarrhœa, opium in some form was found most efficacious.

Vomiting was rarely seen by the authors in pure uterine phlebitis.

Profuse sweating was a constant attendant of the second stage, towards its close.

Respecting the treatment of puerperal phlebitis, the authors properly urge the importance of early recognising the disease. The first stage is met by general and local bleeding, warm bath, and mercurialization. It will be seen by a perusal of the cases narrated by the writers, that much reliance is placed upon the latter; indeed, they observe that recovery was almost certain if ptyalism could be induced. So important do they deem this, that in all those cases in which, from the nature of the labour, or other reasons, the occurrence of puerperal fever was rendered probable, they commence with mercurial inunction a few hours after delivery.

In the second stage, the treatment can only be palliative. Mercury is now inadmissible, unless for the purpose of checking one or other of the secondary inflammations peculiar to the disease. The leading indications they lay down are—1st, to relieve urgent symptoms, as vomiting, diarrhœa; 2d, to support strength by mild diet; 3d, to enjoin short repose of mind and body.*

34. *Causes of Puerperal Fever.*—Dr. Scanzoni considers that the opinion which attributes the occurrence of this disease to the influence of the condition of the internal surface of the uterus, is too exclusive, and maintains, as a proof of this, that the germs of the puerperal fever may be developed prior to the commencement of labour. This being the case, he seeks for the origin of the disease in the altered constitution of the blood, and as the puerperal *crasis* is developed out of that of pregnancy, he conceives that the special causes of the fever are thus determined. He mentions, in illustration of his meaning, that in those instances which, from accidental circumstances, induce some other constitution of the blood, the pregnant *crasis* is prevented; the patients are never attacked by puerperal fever, and, on the contrary, that when, during pregnancy, females become the subject of any disease which depends upon hyperinosis of the blood, they are very liable to puerperal attacks. The conclusions of this somewhat theoretical essay are to the following effect:

1st. Rawsness of the internal surface of the womb is not the only cause of puerperal fever; but that this consists in a peculiar constitution of the blood. 2d. That the constitution, or *crasis*, is indicated by increase of fibrin. 3d. Hypinosis of the blood (deficiency of fibrine) gives immunity against that form of the disease which is accompanied by fibrinous exudation (puerperal peritonitis), but is no safeguard against the suppurative and typhoid forms (phlebitis). 4th. That the latter may arise from absorption of pus from the surface and appendages of the uterus, or from pus developed primarily in the blood from conversion of fibrin. 5th. That the sthenic type may verge into the asthenic during the course of an epidemic.†

35. *Post-Puerperal Metritis.*—Under this term M. Cholmel has been long in the habit of describing a form of metritis, which does not manifest itself shortly after labour, as is the case with ordinary metritis, but at a period varying from eight to thirty days; the principal cause of its production being the resumption of the occupations of life prematurely, before the uterus has regained its normal volume. This organ becomes, under the influence of the metritis, much re-enlarged, while the os uteri is sensitive to the touch, tumid, irregular, and often lacerated. The treatment consists in baths and cataplasms, and laxatives in slight cases, bleeding where the pain and general symptoms require it, and afterwards local resolvents or exutories for the lessening the enlarged uterus.

* Op. cit., p. 25.

† Pra. Viertelsschrift; Monthly Journal, Nov. 1847.

—Dr. Willemin has furnished a very good essay on this subject. He prefers the term *simple idiopathic puerperal metritis*, inasmuch as it occasionally presents itself at a much earlier period than is understood by the term *post-puerperal*; but it is always quite distinct from that form of metritis connected with pyogenic disease. According to the analysis given of ten cases, it is shown that symptoms occurring in some of these may be wanting in others. Thus there are cases in which pain, fever, and abnormal volume are present. 2. In others there are pain and increased size, but no general reaction. 3. Neither pain nor fever is present, but there is normal volume, with sanguinolent lochia, and, in some cases, deep laceration of the os uteri. 4. The rarest form occurs when there is absence of fever and enlargement, while there is pain and sanguinolent lochia. Any of these forms may, and frequently do, become complicated with inflammation of the surrounding cellular tissue of the pelvis, producing iliac phlegmon. The disease is generally, but not always, more acute in proportion as the time elapsed since the labour is short. The neck of the uterus is found to be changed in position, or not to have resumed its normal state; but the author has not observed the sensitiveness described by others. He is disposed to attach much importance to the deep laceration of this part observed in 4 out of 10 of his cases, and easily recognisable in one of them twenty days after labour. The sanguinolent character of the lochia is a symptom to be remarked, and when *iliac phlegmon* complicates the disease it occurs usually on the right side only. Bleeding, linseed cataplasms, and emollient clysters relieve the acute symptoms; and local applications, with, above all things, rest, suffice for the subacute form. For the iliac phlegmon, M. Rayer employs with great advantage, first, a general bleeding and purgatives, and then a large flying blister. If fever persists, he repeats the bleeding, and covers the whole hypogastric region successively with blisters.*

36. *Phlegmasia Dolens—Puerperal Mania*.—These puerperal affections are treated of in Dr. M'Clintock and Hardy's admirable volume; but as they are not characterised by any additions to our previous knowledge, we are compelled to pass them over, simply stating that, like all other subjects comprised in their observations, these are worthy of attentive perusal.

§ IV.—Diseases of Children.

The "Medical Gazette" and the "Medical Times" have continued the publication of the valuable lectures by Drs. West and Wilshire, before alluded to. Our extracts contain some of the most interesting selections from them, but beyond these and the two subjects below, we have not observed any communication of value within the period comprised in the present Report.

37. *Monstrosity*.—Under the name of an "Astomatous Cyclops," Mr. Allan has described a rare species of *lusus naturæ*, of which the following is a description:

"Weight of child, four pounds and a quarter; length, eighteen inches and a half; umbilicus, ten inches and a half from vertex; circumference of head, from the eye, over the vertex, to the occipital protuberance, fourteen inches. The head had the usual quantity of hair, but there was only one eye, very vivid and protruding, in the centre of the face; its upper lid was natural, and furnished with eyelashes, whilst the lower was triangular, its apex pointing downwards to the base of a fleshy cylindrical excrescence, an inch and three quarters in length, and one inch and a half in circumference, strongly resembling a penis (proboscis) situated beneath the eye. A bone similar to a digital phalanx could be felt in the upper half of his body, and a probe could be passed an inch into a canal at its rounded or free extremity. A little below this, and in the ordinary situation of the mouth, the two ears were placed, their cartilages being very perfect, and the helices pointing outwards, whilst their anterior aspects or tragi were separated from each other by a small eminence in the median line, a quarter of an inch in breadth. The meatus auditorii communicated transversely with each other, as well as with the pharynx, by apertures of the tenth of an inch in diameter. There was not the slightest trace of a mouth, of jaw-bones, or of tongue. The pharynx terminated upwards at the base of the skull, and the vocal organs were

* L'Union Médicale, No. 151; Gaz. Méd., 8 Fév. 1848; Brit. and For. Med.-Chir. Rev., No. 2.

perfect. The lungs had never been inflated, and the large intestine was filled with meconium. The parietal bones were separated two inches and a half at the sagittal suture, and the cavity of the cranium contained sixteen ounces of clear serum (coagulable by heat and nitric acid); meninges were vascular. There was no frontal bone, but its place was occupied by a second occipital (?), on the foramen magnum of which the eye was placed, the analogous foramen in the other occipital bone giving passage to the spinal marrow. The cerebrum was of the size of a pullet's egg, and the cerebellum was also very small. There was no trace of the first four pairs of cerebral nerves. A long tortuous pair of nerves, supposed to be the non-ganglionic portion of the fifth (?), came from the crus cerebelli, ran forward, and passed out by foramina, a quarter of an inch apart in the basilar process of the *anterior* occipital bone. A slender nerve, occupying the situation of the sixth, came from the spinal marrow, and passed out by a foramen in the petrous portion of the right temporal bone; there was no corresponding nerve or foramen on the left side. The seventh and eighth pairs were very distinctly seen in their usual position. The transverse semicircular canals were visible through the substance of the petrous portion of the temporal bones.*

38. *Infantile Menstruation*.—An instance of this anomaly has been recently reported. The child was three years of age, and had menstruated repeatedly for twelve months.

The mammae were as healthily developed as in an adult of twenty years; the nates were also developed, the pubes having a slight flush of hair upon them; the labia, &c., as in a matured young person; the hymen was perfect, and the vagina anteriorly was of large size. The countenance was antique, and, altogether, this babe of three years had the appearance and gait of a little old woman. She menstruated regularly, and suffered all the concomitant uterine, lumbar, and other divers aches and pains, as is usual in those who perform this function, as evidencing a capability of utero-gestation.†

* Lancet.

† Ibid., Jan. 29, 1843.

REPORT ON THE PROGRESS OF FORENSIC MEDICINE.

BY WILLIAM AUGUSTUS GUY, M.B. CANTAB.

Fellow of the Royal College of Physicians, Professor of Forensic Medicine, King's College, Physician to King's College Hospital, &c.

§ I.—*Toxicology.*

MINERAL ACIDS.

1. *Poisoning by Sulphuric Acid.*—Mr. Corfe,* of the Middlesex Hospital, reports a case where the quantity taken was about half a pint. It appears that the patient was taken to the hospital at a quarter-past five on the evening of the 5th of January, having swallowed the acid about two o'clock on the same afternoon. Previously to his admission he had taken several doses of magnesia, and had swallowed large quantities of water; upon swallowing the poison, he rejected a considerable portion of it, and suffered intense agony. When seen by Mr. Corfe, he appeared to be half strangled; the extremities were cold and mottled, and the pulse small and feeble. The epithelium on the tongue and lips was partially removed, while that on the fauces was more extensively detached. He was placed in a warm-bath, leeches were applied to the throat; he was allowed to swallow pieces of lake ice; an oily enema was administered; some bicarbonate of magnesia was prescribed, and repeated doses of calomel. After a time he became tranquil, but died at 10 A.M., seventeen hours after his admission, and twenty hours after swallowing the poison.

On examining the body, the epithelium was found quite detached or corrugated from the base of the tongue to the cardiac extremity of the stomach. In the interior of the stomach, and for six inches below the pylorus, all the tissues presented the appearance of being covered with a layer of black pitch, an appearance due to the charred state of the tissues, and not to altered blood. A white spot caused by the action of the acid, was found in the centre of the duodenum, where the peritoneum was almost perforated. The valvulae conniventes presented also the curious appearance of being studded with numerous bubbles of air. The ileum was also corroded. The blood in the left auricle of the heart was black and clotted, but the left ventricle was empty, and rigidly contracted.

A second suicidal case of poisoning by sulphuric acid, has been recorded by Dr. Chowne.† A widow, aged 50, who had been in the habit of drinking, and who had become much depressed in spirits, procured some sulphuric acid at a druggist's shop, and immediately took about half an ounce. The moment it reached her throat, she seemed to be strangled, and fell. She was taken to Charing Cross Hospital in about an hour and a quarter after swallowing the acid, having taken nothing in the interval, but having vomited several times. In the hospital, alkaline remedies were repeatedly administered, and she drank freely whatever was given to her. She complained at first of burning pain in the region of the stomach, but after an hour or two the pain left her entirely, and she even bore pressure over that organ without the expression of any suffering. Her most distressing symptoms, however, were extreme irritation in the throat, a feeling of suffocation, and a constant desire to cough, in order to remove the tenacious phlegm from the fauces. She also vomited small quantities of a reddish fluid. The pulse was small and intermitting, and the mouth presented

* Medical Times, Jan. 15, 1848.

† Lancet, July 10, 1847.

an appearance of having been smeared with milk. The epiglottis was much enlarged, but the voice was almost natural. The patient gradually sank and died, with symptoms of extreme depression, about forty hours after taking the acid. Just before her death she was comparatively tranquil, both in mind and body.

Post-mortem appearances.—There were no signs of the acid having come into contact with the external surface of the body, and the mucous membrane of the cheeks, gums, and tongue was not destroyed, but on the velum it had been removed. The epiglottis was covered by a thick layer of false membrane; it was also very much inflamed, but the rima glottidis appeared quite natural. There were two small corroded patches in the trachea, about one inch from its commencement. The lining membrane of the œsophagus was of a dirty ash colour, and could be easily stripped off; its muscular tissue was highly inflamed, and pus was found between the muscular and mucous membranes. The cardiac orifice of the stomach did not show any marks of the action of the acid, but the large curvature at its cardiac extremity had several strong ridge-like elevations, at small distances from each other, obviously thickened by the acid, the mucous membrane covering them being destroyed. Between the ridges the mucous membrane was natural. These ridges were formed in lines about the fifth of an inch broad, and upon examining their surfaces, they were found to be covered with what appeared to be a false membrane, which could be removed only at their margins, being elsewhere incorporated with the corroded mucous tissue. At the pyloric extremity of the stomach the action of the acid was less intense, but there was a large raised patch, about the size of a crown-piece, contracting the stomach in this part not less than the third of an inch. Extravasation of blood had also taken place beneath the mucous membrane, so as to give to the elevation a black mulberry appearance, and there was thickening of all the tissues around it. The duodenum was in parts corroded in the same manner as the cardiac end of the stomach. The cavities of the heart, with the exception of the right ventricle, were empty. This contained about half an ounce of dark coagulated blood.

With a view of determining experimentally the cause of the appearances found in the stomach, some sulphuric acid was dropped upon the mucus in different parts of the intestinal canal, where the membrane was sound, and a coagulated film was immediately produced, similar to that observed in the stomach, though thinner. Immediately after the formation of this film, it could be scraped off, but if allowed to remain more than a few seconds, the mucous membrane became corroded and involved in it. The remarkable absence of pain over the region of the stomach, even on pressure, after the lapse of two hours, notwithstanding the several local lesions, as well as the great tranquillity enjoyed before death, though not without parallel in cases of poisoning by the mineral acids and by the more active irritant poisons, are circumstances which give an interest to this case.

A third case of poisoning by sulphuric acid occurred in an infant. Hannah Thomas was delivered of a fine healthy child in the Pontypool workhouse, on the 16th of February, 1847. When she had been eight days confined she was seen in the kitchen of the workhouse with a cup in her hands, in which another pauper kept some sulphuric acid for application to a ringworm on her child's head. The same day the child of Thomas was taken ill with vomiting, and other symptoms, and it died the next day. Suspicions were not aroused until the 29th inst., when Miller, the pauper who used the acid, discovered the child's apparel to be rotten in parts, and to resemble her own child's dresses on which she had dropped some of the acid. The body was exhumed, and a post-mortem examination and analysis made by order of the coroner, and a verdict of wilful murder recorded against the mother.*

2. Poisoning by Nitric Acid—Recovery.—A prostitute attempted suicide, by swallowing half an ounce of aquafortis. Three quarters of an hour elapsed before any medical assistance could be obtained, though the druggist at whose shop the poison had been bought had, in the meanwhile, attempted to administer calined magnesia. On the arrival of Mr. Tompkins, who was called to the case, she was in a state of helpless intoxication, and was vomiting a large quantity of dark fluid

* Pharm. Times, April 10, 1847.

matter, resembling porter in colour, and mixed with viscid mucus. The face was congested, the lips were blue and swollen, with a yellow stain and two or three small blisters in the middle of the under lip. There was great depression, contracted pupils, strong spasmodic closure of the jaws, which only intermitted during the vomiting, and grinding of the teeth. As this state of things precluded the use of any antidote, hot-water bottles were applied to the feet, and she was put to bed, where she lay for several hours in a state of insensibility, interrupted only by efforts to vomit, which were readily excited by pressure on the throat. Pressure on the abdomen, at no period, caused the expression of severe pain. After reaction was established, leeches were applied to the throat and abdomen, and doses of hydrocyanic acid administered to allay the vomiting. All the symptoms gradually yielded, and in the course of two or three days the membranes of the mouth began to separate, one portion being moulded into the shape of the fauces, pharynx, and upper part of the œsophagus. From this time she gradually recovered.

It is probable that in this case, as Mr. Tomkins suggests, but little acid reached the stomach, and that, as the patient had been drinking before she took the poison, that which did reach it was so diluted with gin and beer as not to cause much inflammatory action in that organ.*

3. *Poisoning by Hydrochloric Acid.*—A case of alleged poisoning by hydrochloric acid, fatal at the end of six weeks, is made the subject of discussion in the "*Annales d'Hygiène.*"† The acid was presumed to have been taken either pure or mixed with a varnish, for the purpose of procuring abortion. The history during life, though imperfect, affords a strong probability that in one or other form the poison was actually administered; but the chief interest of the reported case is in the chemical examination. The parties to whom the chemical examination was first entrusted obtained from a decoction of the stomach and its contents an acid liquid, which gave with nitrate of silver an unascertained quantity of white precipitate, insoluble in water, and in nitric acid, even with the aid of heat, but soluble in ammonia. The examiners, therefore, concluded that the stomach and its contents contained hydrochloric acid, to which they attributed the death of the deceased. This opinion having been very properly called in question, experiments were made by order of the authorities to ascertain whether the stomach and its contents, as well as the intestines, do not commonly yield the same results. On following the process adopted by the parties first employed, precisely the same results, viz., a marked acid reaction of the filtered liquid, and a considerable quantity of chloride of silver were obtained, both from the stomach and intestines. With the liver no alkaline reaction was obtained, but a considerable proportion of the chloride. The experiments were made on the viscera of two young females who had died of phthisis.

4. *Poisoning by Oxalic Acid.*—A case of poisoning by oxalic acid, terminating favourably, is reported by Dr. Charles Barham of Truro, in the "*Dublin Medical Press.*" Oct. 13, 1847. The dose was *one ounce*; the first appearance of the symptoms in *ten minutes*, in the shape of vomiting of fluid of a dark bloody colour; convalescent on the eleventh day. On the ninth day an eruption appeared over the body, similar to the maculæ of typhus, but passed off by the eleventh day. The other symptoms do not challenge observation.

MINERAL POISONS.

Arsenic.

5. *Case of the Duke of Praslin.*—The particulars of the Praslin tragedy are still fresh in the recollection of our readers. Some points connected with the death of the duke have given rise to much discussion; and as the case, in all its aspects, is one of considerable interest, the following condensed account is compiled from the official documents.‡ On the morning of the 18th of August 1847, the Duchesse of Praslin was found dead in her bedroom; the body presented upwards of thirty incised, punctured, and contused wounds. The furniture of the apartment bore

* *Lancet*, May 8, 1847.

† Jan. 1848, p. 179.

‡ *Annales d'Hygiène et de Médecine Légale*, Oct. 18, 1847; p. 367. See also *Brit. and For. Med.-Chir. Rev.*, Jan. 1848.

evidence to a desperate and long-continued struggle; and the bruises, abrasions, scratches, and several slight injuries on the person of the Duke of Praslin, proved that he had borne a part in those struggles. The point of a poignard, the handle and blade of the same instrument, and the butt-end of a pistol stained with blood, were found to correspond sufficiently with the injuries on the body of the duchess. All the circumstances of the case taken together, leave no room for doubt that the duchess had fallen by the hand of her husband.

Suicide of the murderer. About ten o'clock, on the evening of the 18th, the Duke of Praslin began to vomit. This was the first well-ascertained symptom of poisoning; for it is believed that the frequent retirement of the duke was with a view of baffling the close surveillance of the police. Be this as it may, he was first observed to retire to the water-closet between five and six o'clock in the evening. The vomitings were accompanied by an extremely feeble pulse, and great debility; after taking a glass of Bordeaux wine and some ice, the vomiting ceased, and he appeared much calmer. During the night, and early in the morning of the 19th, the vomitings returned; and the duke being placed in a bath, fainted; the fainting recurred on leaving it, and soon after he had an involuntary evacuation. At three o'clock in the afternoon of the 20th, the duke being in bed, stated, in answer to a question, that he was better. He spoke distinctly, his mind was clear, he did not complain of any pain in the abdomen on pressure, he breathed freely, the tongue was clean, but the pulse was extremely small and irregular, and the extremities icy cold. These symptoms led M. Andral, who had been called in, to suspect the possibility of poisoning, though he thought the strong mental emotions which the duke had suffered sufficient to produce them. By way of precaution, he desired that the evacuations should be henceforth preserved. At eleven o'clock of the evening of the same day the duke was somewhat stronger; had not passed any more evacuations; the pulse had become regular and stronger, but continued more frequent than usual; the hands were still cold. At four o'clock of the morning of the 21st the duke was removed from his residence to the prison of the Luxembourg. He suffered merely from coldness of the extremities, and considerable thirst. An hour after his arrival he was found with a calm expression of countenance, with a little more colour than natural; a somewhat vacant look; the temperature of the body, with the exception of the hands, restored; the sufferings relieved; pulse tolerably full and from 80 to 85 in a minute; tongue clean; thirst excessive; stomach free from pain; no vomiting or nausea. In the evening the pulse was small, frequent, and like a thread; and the extremities cold; there was a sensation of extreme tightness in the throat and of great oppression, and the abdomen was tympanitic and slightly painful; no evacuations of any kind since the arrival at the Luxembourg. On the 22d all the symptoms were more intense. There was extreme spasmodic constriction of the throat, very painful deglutition, and ardent thirst; the tongue and mucous membrane of the mouth and pharynx of a deep red; a sensation of burning from the mouth to the anus; the abdomen inflated and painful to the touch; a high state of fever; a frequent and irregular pulse, now strong, now weak; extreme oppression; no nausea, no vomiting; bowels twice relieved by injections; urine passed in small quantity, though diuretics had been employed. The duke passed a restless and sleepless night, and was evidently growing weaker. On the 23d, the symptoms were aggravated: the features had undergone a great change; the complexion had assumed a reddish-brown cast; the intellect remained entire; there was constant thirst; extreme constriction of the throat; very painful deglutition; the tongue red and dry; the abdomen greatly inflated and painful; the respiration much oppressed; the pulse small and frequent; the extremities very cold; no evacuation of the bowels; no urine passed. At seven o'clock, on the morning of the 24th, the sight had become dim, the respiration very difficult, the pulse very weak and frequent, but the mind still intact. At one o'clock the respiration was more embarrassed, the extremities icy cold, the pulse very frequent and scarcely perceptible. The duke was evidently sinking, and died at thirty-five minutes after four o'clock, having preserved his senses to the last.

The post-mortem examination discovered nothing worthy of remark in any other part of the body, except the alimentary canal, unless the effusion of blood in spots under the pleura, and under the living membrane of the left ventricle of

the heart, be considered as due to the action of the poison. The following were the appearances discovered in the alimentary canal :—

In the stomach, from the cardia to the pylorus, there were seven large eschars, from three-fourths of an inch to an inch and a half in diameter, scattered over the length of the great curvature. These eschars were black, and completely circumscribed by a hard and thickened border of a faint yellow colour. Round these eschars, for a short distance, the mucous membrane was somewhat softened and of a deep red colour. The eschars did not extend through the whole thickness of the walls of the stomach, and there was neither ulceration nor perforation. The rest of the mucous membrane was perfectly healthy. The duodenum and the lower portion of the ileum were of a uniform dull red colour, but free from eschars and ulcers. The rest of the intestines, small and large, were perfectly healthy.

The chemical analysis was entrusted to MM. Orfila and Tardieu, who, by means of Marsh's apparatus, detected arsenic in the liver, and in the stomach and its contents; they failed, however, in obtaining it in a small quantity of urine voided shortly before the death of the duke.

The case of the Duke of Praslin gave rise, at the time of its occurrence, to much discussion. Some blame was attached to the medical attendants for not having sooner attributed the symptoms under which the duke laboured to poison; suggestions were thrown out as to its being a case of mixed poisoning by arsenic and laudanum; the unequal march of the symptoms gave rise to a suspicion that he had contrived to repeat the dose; and some were inclined to doubt the administration of arsenic, on account of the length of time that the duke survived. Most of these points are discussed in the report of MM. Orfila and Tardieu, and the objections satisfactorily disposed of. They arrive at the following conclusions:

- 1st. That M. de Praslin died poisoned by a preparation of arsenic.
- 2d. That the poison was very probably swallowed late on Wednesday, August 18th, after four o'clock in the afternoon, and before ten o'clock at night.
- 3d. That the march of the symptoms was regular, and such as we observe in cases of poisoning by arsenious acid.
- 4th. That the cessation of the vomiting ought not to be attributed to an improvement, even momentary, in the state of the patient, since he continued to be a prey to severe symptoms of arsenical poisoning.
- 5th. That the death, though slow in its occurrence, might be the actual effect of a quantity of arsenious acid swallowed six days previously.

The quantity of the poison, though not ascertained, must have been considerable; and, taking all the circumstances of the case into the account, it seems in the highest degree probable that the poison was swallowed between the hours of nine and ten on the evening of Wednesday, August 18; so that the duke survived its effects no less than five days and eighteen or nineteen hours—a considerable, though by no means a very unusual, period; for several cases are on record, in which the fatal event did not happen till the lapse of three, four, five, six, or seven days. Out of forty-eight cases, collected and analyzed by the writer, one terminated on the sixth, and one on the seventh day.

It may be well to add to the foregoing account of the case that arsenic was found on the person of the duke, in the pocket of a dressing-gown, which the police had at first neglected to search.

6. Several other cases of poisoning by arsenious acid are recorded in the French Journals. The following are given as possessing some points of interest :—1. A family of four persons were seized, after partaking together of some broth, with acute pain, vomiting, and other symptoms of poisoning. They all recovered, though the dose was proved to have been very considerable. The causes assigned for the favourable termination were, that the arsenic was administered in fragments, or coarse powder, and that it was enveloped by the greasy matter of the broth. Arsenic was found in large quantity in the matters discharged from the stomach and bowels.* 2. In the case of two unsuccessful attempts at poisoning by arsenic, the fact was established by giving portions of the prepared food to two animals; and suspicions having been excited respecting the death of an old man of 80, who

* Gazette Médicale, 4 Septembre, 1847.

died eighteen months previously, were verified by the exhumation of the body. Although putrefaction was very far advanced, and the viscera formed one mass of adipocere, they were found to contain an enormous quantity of arsenic.* 3. A husband was poisoned by his wife, with arsenic furnished by her paramour. The quantity given to the wife was about an ounce, of which she administered a part in white cheese mixed with milk. The husband survived ten hours. MM. Chevallier and Bayard detected arsenic in appreciable and even ponderable quantities in the stomach, intestines, liver, spleen, heart, and lungs; and in the matter voided from the stomach and bowels. A large number of suspected substances were examined, none of which were found to consist of, or to contain arsenic; but certain substances found in the possession of the accused paramour, his uncle, and godfather, were found to be arsenic. The paramour was condemned and executed, and the wife and a female accomplice were condemned to perpetual imprisonment with hard labour.†

7. *Poisoning by Arsenic—Magnesia as an Antidote.*—M. Cadet-Gassicourt has related two cases of arsenical poisoning, in which hydrated magnesia was successfully administered. Both cases occurred in the practice of M. Chammartin.‡

The subject of the first case was a lady in Paris, who, on the 27th of October, 1847, took a considerable dose of arsenic in the form of powder sprinkled on bread and butter. Three or four hours after this she took a cup of coffee; this brought on immediate vomiting, which recurred at intervals. Between six and seven o'clock the same evening M. Chammartin was called in, and found the patient suffering from all the symptoms of arsenical poisoning. He prescribed hydrated oxide of magnesia, of which 300 grammes (between $\text{℥}ix$ and $\text{℥}x$), were given in the course of two hours. It was followed by liquid evacuation, and the patient recovered.

The subject of the second case was a man *æt.* 23, of dissipated habits. Three hours after an unusually full supper he took a large dose of powdered arsenic, followed by copious draughts of water. He passed the night in great agony in the bowels and chest, but had no nausea, vomiting, or diarrhoea. At 11 A. M. the next day, M. Chammartin was sent for, and found the man in a state of great collapse, with his face pale, and his features haggard and pinched; he was agitated, and spoke with a feeble voice; his respiration was difficult, and he complained of a tearing sensation along the gullet and at the epigastrium, and of thirst and dryness of the fauces. His tongue was moist, but red at the edges and point, his deglutition was easy, and there was no diarrhoea, though he suffered from colic and cramps in all his limbs. The hydrated oxide of magnesia was then given, warmth was applied to the surface, and he was afterwards bled. He was then removed to the Hôtel Dieu, where all his symptoms improved. He finally recovered. The quantity of magnesia given was about 500 grammes (about $\text{℥}xvii$), but while in the Hôtel Dieu some hydrated sesquioxide of iron was administered.

The same journals contain an account of the dispute between MM. Caventon and Bussy, as to the comparative efficacy of the hydrated magnesia, and the hydrated sesquioxide of iron as antidotes to arsenic. The former advocates the superiority of the sesquioxide over the magnesia, while M. Bussey is inclined to the opposite opinion. M. Caventon says that the salt formed by the iron with arsenic is less likely to be decomposed by the muriate of ammonia which naturally exists in the stomach and intestines, and states that this salt readily decomposes the arsenite of magnesia, so that when the last is the antidote used, the arsenic is more liable to be reduced to a soluble state. But M. Bussy remarks that such a result is obviated by using an excess of magnesia, which again, according to M. Caventon, is apt to occasion an extrication of free ammonia, which, from its irritating properties, cannot but concur in complicating the case.

The same subject has also been investigated by M. Riègel, whose results are briefly these:—The author has been enabled to detect traces of arsenic in a filtered solution, upon the application of the sesquioxide of iron, by the sulphuretted hy-

* Gazette Médicale, 4 Septembre, 1847.

† Annales d'Hygiène, Avril, 1848, p. 419.

‡ Journal de Chimie Médicale, Février et Mars, 1848.

§ Jahrbuch für Prakt. Pharm. xiii., and Chemical Gazette, August 1, 1847.

drogen test, wherever the quantity of the oxide was less than seven parts, but the liquid was perfectly free from all traces of the poison wherever the antidote was added in the proportion of more than 10 parts. With arsenic acid at least 12 parts were required to precipitate the acid completely. With respect to the hydrate of magnesia, he found that to precipitate entirely one part of arsenious acid, at least 18 parts of the antidote are required, and he recommends that, in preparing the magnesia, 100 parts of the sulphate should be precipitated by 50 parts of caustic potash, and the precipitate washed and preserved in bottles under water. Moreover, the author found that the compound formed by magnesia with arsenious acid was quite insoluble in cold and boiling water. When the arsenic is in combination with alkalis, this antidote does not completely remove it from its solution, but by mixing some undecomposed magnesian salt with the hydrate of magnesia, all traces of the poison were removed. He accordingly recommends a mixture of hydrate of magnesia and sulphate in water, in equal parts, as the most advantageous form, especially when it is uncertain whether the poisoning has resulted from free arsenious acid, or some alkaline arsenite.

In preparing the magnesia for the purposes of an antidote, it is necessary according to M. Bussy, to avoid calcining too much, as highly calcined magnesia is useless.*

8. *Poisoning by Arsenic.—Detection of the Poison.*—On the trial of Elizabeth Johnson, for the murder of her husband, at the Liverpool Lent Assizes for 1847,† a verdict of not guilty was returned in the face of the strongest circumstantial evidence. The objection that the arsenic detected in the exhumed body might have been derived from the soil, which had not been analysed, having been much insisted on by the presiding judge, Baron Alderson, who expressed himself as follows:—"But the quantity of arsenic which Mr. Watson found was but very small, not more than a grain, if so much, in the nineteen ounces of intestines; and as the grave was wet, may there not be a possibility of the small quantity of arsenic being derived from water which had drained into the body out of the soil of the churchyard?" This case, and the value of the objection here stated, will be found very ably discussed in Mr. Taylor's new work on Poisons,‡ p. 366. It is evident, from the importance attached to this objection in the present instance, that the chemical examination of the surrounding soil will be necessary in all cases in which the coffin is so far decayed or injured as to allow of the contact of the soil with the body, or of the percolation of the rain through it. Though the fact that arsenic, where it exists in the soil, is in an insoluble form, and its proved non-absorption by the body, in more than one instance where it was actually contained in the soil, might appear to render such a precaution unnecessary, it is certainly expedient to examine the soil, in order to ascertain whether it contains arsenic, and if so, in what form. The other points of interest in the case will be found fully discussed in the work referred to, which we may take this opportunity of recommending as the most recent work on the subject in our language, and one worthy to take its place beside the older standard work of Dr. Christison.

9. *Poisoning by Arsenic.—Detection of Arsenic in the Bones of the Skeleton after ten years.*—A case of poisoning occurred in the village of Scamague, without the fact having reached the ears of justice. Ten years afterwards, circumstances arose which led to the apprehension of four suspected persons. One of them confessed that the murdered individual had died in twenty-four hours from the effects of arsenic. The skeleton was exhumed and submitted to chemical analysis, and arsenic was distinctly discovered, while none was detected in another skeleton that lay so close to the other that at first it was mistaken for it.‡

10. *Arsenic detected in the Urine and in the Serum of a blistered surface.*—M. Legroux, physician to the Hospital Beaujon, in a case of poisoning by arsenic, where the matters discharged from the stomach and bowels had been thrown away, succeeded in obtaining evidence of poisoning in the urine and serum of a blistered surface. M. Chatin, to whom the analysis was entrusted, obtained from about 1,300

* Bouchardat, in *Nouvelle Encyclopedie des Sciences Méd.*, Février 1847.

† *Med. Gazette*, Sept. 1847, p. 565.

‡ "On Poisons in relation to Medical Jurisprudence and Medicine," by Alfred S. Taylor, F.R.S., Lecturer on Medical Jurisprudence and Chemistry at Guy's Hospital.

§ *Gaz. Méd.*, Janvier 1847.

grains of urine an arsenical ring, and spots enough to cover two porcelain plates; and from about 620 grains of serum 16 well marked spots of arsenic, and several smaller stains. M. Chatin, consequently, suggests the application of a blister in cases of suspected poisoning, where the secretion of urine is suspended, and the matters discharged from the alimentary canal have been lost,* a suggestion which is certainly deserving of attention.

11. *Test for Arsenic—A New Mode of distinguishing the Spots of Arsenic and Antimony.*—Both the methods recently recommended by MM. Lassaigne and Cottereau (Ranking's "Abstract," Vol. V.), being tedious and open to objections, the writer of the present abstract proposes the following as expeditious and easy of application.† Having obtained a crust of metal on porcelain, treat it with a drop of hydrosulphuret of ammonia. The antimonial crust is rapidly dissolved, the thin portions of the crust at the circumference instantaneously, while the centre speedily contracts, and in less than a minute disappears. The arsenical stain is at first scarcely affected at all, but after a considerable interval of time, varying with the thickness of the crust, is acted upon, but imperfectly. On the evaporation of the excess of hydrosulphuret of ammonia, the antimonial spot assumes the form of a distinct orange-red sulphuret of antimony without any trace of the metal; while the arsenical stain, unless the test be repeatedly applied, always presents a centre of metal, with a border of pale lemon-yellow sesquisulphuret. If treated with a drop of liquor ammoniac, this latter stain disappears, while the antimony remains intact; and, on the other hand, on touching the spots with hydrochloric acid, the antimony disappears and the arsenic remains.

The hydrosulphuret of ammonia employed in this case, should contain an excess of sulphur. Freshly-prepared hydrosulphuret acts less characteristically than that which has been some time in use; unless the liquid have a distinct yellow colour, it is always desirable to add to it a few grains of sulphur. We must, however, avoid such an excess of sulphur as shall impart to the test an orange colour. When so prepared, the largest and thickest stains of antimony will be found to disappear in from three to seven seconds, while even the faintest arsenical crusts remain for a very considerable period intact, and are never completely dissolved by a single application of the test. Another precaution which should be observed is that of proportioning the quantity of the test to the size and thickness of the spot. A single drop is sufficient, but that should be applied by a large or small-sized glass rod, according to the size of the spot itself. This test, when applied with the precautions here pointed out, is perfectly conclusive; but it would be well to corroborate it by Bischoff's test—the chloride of lime—which dissolves the arsenical spot, but leaves the antimonial spot intact; and still further by the nitro-muriatic-acid test, to which Mr. Alfred Taylor gives the preference. This test may be applied as follows: add to the metallic stain a drop or two of nitro-muriatic acid (two parts of muriatic to one of nitric acid), and evaporate to dryness. The brownish white residue is soluble in water if the stain was arsenical, insoluble if antimonial; and the arsenical stain gives a brick red precipitate with nitrate of silver; not so the antimonial stain.

The three tests now recommended appear to be preferable for promptitude and certainty to any others; and should a series of metallic stains yield characteristic reactions with each of them, the evidence of the presence of arsenic or antimony, will be as satisfactorily established as it is possible to expect or desire.

12. Much has been lately written on the means of imparting to the cheap, colourless, and almost tasteless oxide of arsenic properties, which, in actual use, may suffice to warn the intended victim of poison of its presence. Dr. Cattell, of Braintree,† proposes the following admixtures:—1. Arsenious acid, ℞j; prussiate of potash, ℥xx.; sulphate of iron, ℥x. The arsenious acid and the prussiate of potash to be mixed together before adding the iron. The substances to be dry, and the mixture to be preserved in a stoppered bottle. 2. Substitute for the sulphate of iron, the same quantity of sulphate of copper. 3. Arsenious acid, ℞j; bichromate of potash, ℥ij or ℥iv. 4. Arsenious acid, ℞j; sulphate of zinc, ℥ij. 5. Arsenious acid, ℞j; tartarized antimony, ℥ij. 6. Arsenious acid, ℞j; pulverized

* Journal de Chimie Médicale et de Toxicologie, Juin 1847.

† Pharmaceutical Times, July 10, 1847.

‡ Lancet, Oct. 9, 1847.

naphthaline, &c. The first three combinations effect the object in view by changes of colour, which, for the principal articles of diet, will be found minutely detailed in Dr. Cattell's paper. The fourth and fifth combinations act as emetics; the last excites coughing.

13. *Poisoning by Arsenite of Copper.*—Mr. Hetley, visiting surgeon to the St. Marylebone Infirmary, was sent for to see several persons who had been taken suddenly and dangerously ill. He found three adults and eight children vomiting and retching, the angles of their mouths and their linen being coloured green by the vomited matter. One of the children stated, that he had bought two pennyworth of coloured confectionery ornaments, of which they had all partaken. The symptoms appeared within ten minutes. As the patients had already vomited freely, the treatment was confined to the administration of a mixture of new milk, eggs and sugar, under which they recovered without any bad symptoms.*

An accident on a larger scale, but happily unattended by any fatal result, occurred in our own experience, one of the patients having been brought to the King's College Hospital on the day after the accident. An ornamental green basket, after having been used at an evening party, was given to one of the attendants, who distributed the fragments among the inmates of a large workshop. Severe vomiting and purging was the result. On inquiry at several confectioners we ascertained that arsenite of copper is commonly used to give a green colour to confectionery, and an analysis of a fragment of the basket confirmed this statement. This poison will continue to be used till some grave accident occurs. †

MERCURY.

14. *Case of Poisoning by Turbith Mineral (Subsulphate of the Peroxide).*—The following case, which occurred in the practice of Dr. Letheby, was communicated to the Pathological Society of London by Mr. Ward.‡

G. L., aged 16, on the night of the 19th of February, took two pennyworth (about one drachm) of this substance, which caused a burning sensation in the throat and mouth, followed by vomiting. The pain in the throat increased, and soon extended to the chest and abdomen. He applied at the London Hospital for relief, and upon admission, vomited repeatedly; his countenance was pale and anxious, and he complained of chilliness and pain in the throat and stomach. Sulphate of zinc and mucilaginous draughts were administered, but the symptoms continued, and he passed a restless night, with purging, vomiting, and cramps in the legs. All the inflammatory symptoms, particularly those referred to the stomach, continued during the next day.

On the 21st the purging ceased, but the throat was still painful, and the breath began to acquire the mercurial fetor. He now daily became weaker and weaker, with continued vomiting and profuse salivation, the gums acquiring a deep bluish tint, and beginning to ulcerate at the margins. He never lost his senses or became comatose, but died nearly a week after the administration of the poison. The following were the most striking post-mortem appearances; the blue tint of the lips and gums, with the ragged ulcerated condition of the latter; swelling of the salivary glands; the alimentary canal, especially from the cæcum downwards, redder than natural, and studded with petechial spots; the intestines contracted through their whole extent, nearly empty, and of a slate or leaden colour; the bladder contracted; the lungs gorged and collapsed; the heart empty on its left, and distended on its right side, leading to the conclusion that death had commenced at the respiratory organs, which view was also corroborated by the turgid condition of the venous system generally, and the black uncoagulated state of the blood.

LEAD.

15. *Impregnation of Water with Lead.*—A notice of the early researches of Mr. Osborn on this subject will be found in Vol. V. of this "Abstract," p. 299, since

* Pharmaceutical Journal, Oct. 1, 1847, p. 199.

† This anticipation has been verified as this sheet was passing through the press.

‡ Medical Gazette, March 12, 1847.

which time he has been induced to follow up those investigations, and has ascertained, by careful chemical examination of the water of a well at Portswood, that the lead piping is corroded and acted upon by free hydrochloric acid contained in the water. In all probability, the same cause would be found in operation in other parts of England, as well as in the localities specified by Mr. Osborn.*

COPPER.

16. Victoire A., an idiot, died after an illness of 14 days, with symptoms and under circumstances which excited, after the interment, suspicions of poisoning. The body was disinterred, and the principal organs, as well as the contents of the intestines, were placed in the hands of Chevallier and Lassaigne. They also examined four specimens of earth taken from near the coffin. The conclusions at which they arrived were as follows: 1st. That the organs extracted from the body of the girl Victoire A. contained a preparation of copper. 2d. That that preparation of copper must have been swallowed; because the presence of copper had been detected in the intestines, their fecal contents, the stomach, the liver, the heart, the lungs, the kidneys, and the muscles. 3d. That the earth surrounding the coffin containing the body of the girl did not contain any copper. 4th. That the copper found in the organs of the girl Victoire A., by reason of the proportion in which it was obtained, could not be considered as *accidental copper*; for it is known that we discover only traces of the metal in the animal economy, and that in some instances it has been found to be absent.†

17. *Impregnation of Water with Copper.*—Mr. Osborn, of Southampton, has recorded a case in the "Pharmaceutical Times,"‡ in which the impregnation of water with copper was clearly due to the use of a brass force-pump. He found the water to become so quickly charged with the metal, that he was led to suppose the existence of some acid which might render the copper more easily soluble. He thinks that this acid may be supplied by the grease used for the piston, or that the oxide of copper, like that of lead, may be dissolved by acids naturally contained in the water.

18. *Normal Lead and Copper.*—M. Legrip, in the course of an inquiry into a case of suspected poisoning which gave negative results, was induced to test the liver and spleen by carbonization and nitric acid, when he obtained 0.0027 gramme (about 0.00017 grain, English) of lead, and 0.0045 gramme (about 0.0003 grain, English) of copper, which he is inclined to regard as the normal proportion contained in those viscera. The quantity is so small, that, whether it is to be accounted for by some impurity in the test employed, or to be considered as a normal constituent of the human body, it is not likely to lead to any practical difficulty in medico-legal inquiries.§

M. Orfila also inclines to the belief, that both these metals are normal constituents of the human body, and that they can be easily detected by carbonization of the liver, spleen, and other organs. If a salt of lead or copper has been taken as a poison, and absorbed into the tissues, he considers that the mere digestion of the viscera in boiling water will suffice to separate the soluble compound of the metal produced. The question will be found fully discussed in a paper communicated to the Académie de Médecine.||

[See also, on this subject, the "Abstract," Vol. II. p. 327, for the results of the experiments of Devergie and Boutigny; and Vol. V, p. 299, for the negative result obtained by Mr. Alfred Taylor in the case of lead.]

ANTIMONY.

19. *Poisoning by the Chloride of Antimony.*¶—W. H., aged 41, a potboy, of intemperate habits, swallowed an ounce of this substance. He immediately experienced severe pain in the throat and fauces, and soon became insensible. The

* Pharmaceutical Journal, May 1, 1847. † Annales d'Hygiène, Avril 1848, p. 408.

‡ Oct. 16, 1847.

§ Journal de Chimie Médicale et de Toxicologie, Mai 1847.

|| Gaz. Méd. Juin 1847.

¶ Dublin Medical Press, March 8, 1848; and Lancet.

stomach-pump was then applied, and the patient was afterwards taken to an hospital, at 4 P. M., April 23d, 1847. Upon his admission, the surface of the body was cold and clammy, the eyes lustreless, and the pupils inactive; the pulse scarcely perceptible, and the expansion of the chest, during inspiration, so slight that respiration seemed suspended. Stimulants were applied to the nostrils, and cold affusion to the head, by which he was so far roused as to be able to swallow tincture of bark, diluted with green tea, which was repeated at short intervals for an hour, during which period he vomited some undigested food three or four times. Though all his symptoms, after this, soon improved, yet he was so prostrated for several hours that he could not articulate. The next day he began to complain of a sense of burning, and severe pain in the throat and abdomen, with some degree of tenderness. The tongue was dry in the centre, and the fauces considerably inflamed. He was ordered fomentations, farinaceous food, castor oil, calomel, and opium. He then became restless, with a hard pulse, and the abdominal tenderness increased, until the oil operated, when all the symptoms were relieved. He rapidly recovered, and soon left the hospital. This is the second case in which butter of antimony has been made use of for the purpose of suicide. In two instances it has been taken by mistake; in the one for ginger beer, and in the other for antimonial wine.

ZINC.

20. M. Reboulleau, a French physician, describes some peculiar effects which he has observed to be produced on the health of workmen in a brass foundry in the neighbourhood of Paris. They bear a close resemblance to an attack of intermittent fever, beginning with dull pains in the hypochondria, back, and limbs, oppressed respiration, and loss of appetite, followed by cold shiverings, pallor of countenance, contraction of the features, chattering of the teeth, small, frequent, and irregular pulse, accompanied sometimes by nausea and vomiting. This first stage is followed by redness of the face, general heat of surface, full pulse, and warm and moist skin; and this stage, again, by profuse perspiration, which lasts from eight to ten hours. M. Reboulleau himself has suffered from all these symptoms. It appears that some workmen escape the attack altogether; others are rendered proof against it by passing through three or four paroxysms, produced by as many distinct exposures to the cause. The author attributes the effect chiefly to the oxide of zinc, but thinks, at the same time, that copper and arsenic are not altogether innocent of it. The proper prophylactic is, of course, efficient ventilation, or an arrangement by which the metallic fumes may be readily carried off as soon as disengaged.*

OPIMUM, AND ITS PREPARATIONS.

21. *Poisoning by Godfrey's Cordial—Recovery under the use of the Electro-magnetic Battery.*—Mr. W. J. Tubbs, of Upwell Isle, relates a case of poisoning by half a teaspoonful of Godfrey's cordial, given to an infant three weeks old. The symptoms of poisoning were well marked; and recovery took place under gentle shocks passed along the spine and through the region of the heart during ten minutes, after cold affusion, flagellation, ammonia to the nostrils, the injection of cold water into the ears, the application of mustard poultices, and an emetic of five grains of sulphate of zinc, had failed †

22. *Poisoning by Acetate of Morphia treated by large Doses of Coffee.*—A man swallowed, at one time, about seven décigrammes (about 13½ grains) of acetate of morphia. As the exhibition of twenty centigrammes (four grains) of tartar emetic failed to excite vomiting, the medical attendant, about three hours after the taking of the poison, administered, during a state of profound coma, a very concentrated infusion of coffee, with the dregs. In twelve hours the patient must have taken upwards of ten ounces of coffee. He afterwards recovered.‡

* Académie des Sciences, Gaz. Médicale, 3me série, tome ii. p. 790.

† Medical Gazette, Sept. 1847, p. 513.

‡ Journal de Pharmacie et de Chimie, Fev. 1847.

23. *Method of determining the presence of Morphia in Cases of Poisoning.*—M. Mermu* recommends the suspected matter, if solid, to be carefully washed with distilled water acidulated with acetic acid; if fluid, to be diluted with the same. The solution having been warmed, filtered, and evaporated to dryness, the animal matter is to be separated by treating the residue with boiling alcohol. To the alcoholic solution, previously filtered, tincture of nutgalls is to be added, and maceration being continued for fifteen days, the morphia remains in solution in combination with tannin. The solution, again filtered, is then to be diluted with distilled water, and a solution of gelatine is to be added in excess, to decompose the tannate of morphia. Filtration separates the tannin and the gelatine, and the alcohol being dissipated by evaporation, the morphia remains, and may be recognized by the usual reagents.

HYDROCYANIC ACID.

24. *Suicide by Hydrocyanic Acid—Acts of Volition and Consciousness.*—The following case is peculiarly interesting, inasmuch as both the *strength* and *dose* of the poison were known.†

Mr. Shepherd, a surgeon of Worcester, was in the habit of entering the shop of Mr. Stringer, a chemist, for the purpose of prescribing. Upon the present occasion (June 8th) he came to the shop with his sister, Mrs. Hill, and asked for Zij of Scheele's prussic acid, which was handed to him in a bottle properly labelled. He shortly afterwards left the shop, but returned again with Mrs. Hill in the course of a few minutes, and after paying for some carbonate of soda, requested to speak with Mr. Stringer in the back parlour. Mr. Stringer followed him into the room within two minutes, being detained in the shop at the time by a customer, and found Mr. Shepherd sitting on the sofa, with the bottle in which the prussic acid had been placed, empty and on the table. After a few words with Mr. Shepherd, Mr. Stringer went and fetched the nearest surgeon, and returned with Mr. Pierpoint, who found the deceased lying on the floor, but still alive. After a vain attempt to excite vomiting and administer ammonia, Mr. Shepherd heaved two or three sighs and died. From the evidence of Mrs. Stringer on the inquest, it appeared that she, hearing footsteps in the parlour above her head, went up stairs, and looking through a glass-door, saw the deceased drinking something. She then went down stairs, and having again, in about ten minutes, heard the footsteps of a person passing quickly, went into the room, and found Mr. Shepherd alone, and on the floor. Mrs. Hill, it also appeared, entered the parlour on the departure of Mr. Stringer for the surgeon, and met her brother, who, *advancing* towards her about a yard into the room, complained of being sick, and shortly afterwards fell upon the ground. It should be observed, that previously to taking the poison, Mr. Stringer had drunk some water in the shop, which may have delayed its operation. There was no evidence of the occurrence of either convulsion or shriek.

The following were the appearances of the body after death: the countenance, particularly the lips, were livid, the shoulders and posterior part of the trunk purple. Dark fluid blood flowed freely on dividing the integuments; the lungs were considerably congested with dark blood, and the right auricle and ventricle of the heart and the vena cava were found full of blood of the same character; but the left ventricle was firmly contracted, and quite empty. All the abdominal viscera were natural, and the brain healthy, but full of blood. The stomach, particularly at its cardiac extremity, had a very vascular appearance, and in some of the patches oozing of blood had evidently taken place. The other parts had a brownish appearance. About an ounce of raspberry-coloured fluid was found in the stomach, which smelt very strongly of almonds, but five out of six medical gentlemen failed to perceive any odour of prussic acid upon approaching the body, either before or after it was opened.

A sample of the acid was then forwarded to Mr. Taylor, who ascertained that the strength of the acid used in this case was rather more than 1.9 per cent., very

* *Journal de Chimie et Toxicologie, and Gaz. Méd.* Avril 17, 1847.

† *Prov. Medical and Surg. Journal*, June 20, 1847.

nearly that of the acid of the London Pharmacopœia. The bottle forwarded to Mr. Taylor was found also to contain exactly 105 drops, or 98 grains, and corresponding to 1.87 real acid, which was the quantity swallowed by Mr. Shepherd, though, according to the evidence of Mr. Stringer, the quantity he measured out was 120 drops of the same acid.

This case adds another instance to those now of no uncommon occurrence, where acts of volition of the most decided character have been performed after large doses of the poison. The absence of the shriek and of convulsions, and the non-detection of the odour of the poison in the body after death by several observers, are also points worthy of notice.

25. Dr. S. C. Sewell, of Montreal,* gives the following case of poisoning by prussic acid:—A hypochondriac gentleman took 7 drachms of the acid, of the estimated strength of 3 per cent. Previous to swallowing the poison he locked himself in his room, but after about a minute unlocked the door, and cried out, "Come to me quick, I am dying." A servant immediately entered the room, and found him lying on his back on the sofa, with his legs crossed, insensible, and snoring. Dr. Sewell arrived in twenty minutes. He was then dead, and presented the appearance of profound slumber; his legs crossed, his arms by his sides, and his eyelids firmly closed. At the end of 20 hours the body presented the following appearances:—The eyes brilliant, the face and lips livid, and the muscles, with the exception of those of the legs, flaccid. Dr. Sewell states that there were no convulsions; and he says that he thinks it probable that the patient "did not give the alarm until he found the acid working on him; at any rate, he walked from the table to the door and unlocked it after taking the poison, called for assistance, and then walking to the sofa, stretched himself on it."

STRYCHNIA.

26. *Poisoning by Strychnia—Recovery.*—A remarkable instance of recovery from a large dose of this poison has been recorded by Dr Anderson.† A Mr. B. had suffered severely from the *tic douloureux*, for which he was in the habit of taking $3\frac{1}{2}$ grains of hydrochlorate of morphia at a dose. Upon the present occasion he bought, as he supposed, some fresh morphia, but which he observed had a yellowish cast. He took the same day $3\frac{1}{2}$ grains of this powder, and observed that it had a very bitter taste. Soon afterwards he experienced numbness in the back of the legs, which he referred to cold. However, he left his home, and proceeded a short distance on business, the same sensation continuing, with a general feeling of indisposition. The numbness was soon accompanied by a sort of dragging of the legs, so that "he had to put his hands at the back of his thighs in order to push his legs along." This was now about two hours and a half after taking the poison. This want of power, however, did not increase; but while describing his symptoms to a friend he suddenly lost his balance and fell backwards, and upon rising became more nervous and alarmed. He then experienced more difficulty in walking, and could not get on without support. He proceeded home, and, before stepping into bed, took a *second dose* of the same powder. This was about five hours since the first. In less than ten minutes after this he was seized with tetanic spasms, affecting the legs and muscles of respiration. He was raised in bed, which relieved the sense of suffocation, but the spasms of the leg, back, and chest continued, and followed each other every ten or fifteen minutes. The numbness and dragging of the muscles, which had been continuous during the first five hours, now left him during the intervals of the spasms, and he suffered only from exhaustion. His intellect remained clear throughout, and his hearing became very acute. The paroxysms lessened in frequency after a time, when they suddenly returned in all their former violence. The symptoms then ceased, about thirteen hours after the first dose was taken, and the patient, suffering only from extreme exhaustion, gradually recovered. Little or no medical treatment was adopted. Dr. Anderson afterwards clearly proved the nature of the poison by a careful analysis.

* Brit. Amer. Journal of Med. and Phys. Science, Nov. 1847, p. 160.

† Monthly Journal of Medical Science, Feb. 1848.

Dr. Anderson draws attention to the following points, as possessing interest: 1. The dose was well ascertained, as the patient weighed it himself. 2. The largeness of the dose. 3. The gradual and slow approach of the symptoms, and the postponement of the tetanic spasms until the second dose had been taken. How far the effects of the strychnia were influenced by the large doses of morphia, which the patient was in the habit of taking, it is difficult to say. But one case, related in the "*Journal de Pharmacie*,"* records the fact, that a student of dissipated habits swallowed, after drinking, 2 grammes (upwards of 30 grains) of this poison, and that tetanus did not follow until after a long time. Hence we may suppose that intoxication in this, and the habitual use of morphia in the former case, might have delayed the operation of the poison.

27. In the "*Philadelphia Medical Examiner*"† will be found a report of another case of poisoning by strychnia, taken by mistake for morphia. It is extremely interesting in many points of view; for, in the suddenness of the effects, the smallness of the dose, and the rapidity with which it proved fatal, it is without a parallel. The quantity supposed to have been taken was about a quarter or half a grain of the sulphate, and it appeared probable that the effects were manifested in less than five minutes, and that death occurred within twenty minutes from taking the poison. The symptoms were such as are generally observed in similar cases, but the tetanic paroxysms were remarkably severe.

28. *Poisoning by Aconitina*.—Dr. Golding Bird has communicated to the Medical Society of London‡ a case of this kind, which is peculiarly interesting, as being the first recorded case of poisoning by this vegetable alkaloid. A gentleman of high intellectual attainments and good station in society obtained, from his own prescription, two grains and a half of aconitina. It appears probable, from collateral evidence, that he must have fallen almost immediately upon swallowing the poison, and struck his head against the furniture. Either the poison or the blow must have caused violent vomiting, as the floor of his room was found flooded with vomited matter. When seen by Dr. Bird, eight hours after taking the alkaloid, the patient was fearfully collapsed, the surface was cold, sweating, and quite pale, and the heart's action almost imperceptible; the pupils acted, and there was no paralysis. His intellect was unimpaired; but he suffered from severe vomiting, which recurred every two or three minutes, and was performed by a sudden jerking action of the abdominal muscles, accompanied by a loud shout, probably dependent upon a sudden contraction of the diaphragm. Every attempt to swallow was followed by the spasmodic contractions so characteristic of hydrophobia, but they were not renewed by the sight of water. All these convulsive movements were, however, easily excited by simply touching him. The treatment adopted was a warm bath, with a turpentine enema, and a mustard poultice applied to the region of the stomach. The pulse became more perceptible towards evening, and the patient calmer; but as the spasms were still easily excited by any attempt to swallow, it was deemed advisable to administer an enema of beef-tea and yolk of egg, with ten drops of tincture of opium. He passed the night in a state of spasm and exhaustion, but his intellect was most perfect, and even vivid. After a hard struggle, he emerged from the effects of the poison, and was pronounced convalescent the next day.

This case offers a few points of interest in a toxicological point of view. The constant and repeated vomiting, the great depression of the circulatory system, as well as the spasmodic state of the muscles, are symptoms observable also where the root or extract of aconite has been used. Of course, as was to have been expected, all these symptoms were in this case considerably aggravated. But Dr. Bird's opinion, that the vomiting and hydrophobic state of the patient are characteristic of poisoning by this alkaloid, still requires confirmation. It may, however, be remarked, that where the root or extract has been administered to cause death, either complete insensibility, or stupor almost amounting to it, has been observed in many instances; while in the present case the intellect remained perfect, and even acute during a great portion of the time occupied by the operation of the poison. Lastly, when we consider the dangerous effects that are so apt to follow the administration of even small doses of the alcoholic extract or

* N. S., vol. x., p. 36.

† May 1847.

‡ *Lancet*, January 1, 1848.

tincture, we cannot but be surprised at recovery where two grains and a half of the active principle had been taken. It was probably due to the early and severe vomiting.

29. *Poisoning by Camphor*.—A young man, æt. 20, of a robust constitution, swallowed, bit by bit, about two drachms of camphor. He soon became affected with headache, and, upon going into his room, stripped and danced, and endeavoured to jump out of window. A surgeon was sent for, who found him in a state of great excitement: his pulse was 180, and small; the conjunctivæ were injected, the pupils dilated; respiration hurried, with the breath having the odour of camphor; face pale; difficult and frequent micturition; the urine was clear, and strongly impregnated with the drug. Some opium was given him, and he vomited several pieces of camphor. He then became very drowsy, but was not allowed to sleep until the effects had in some measure passed off. He then slept for three hours, and awoke perfectly unconscious of what had happened.*

30. *Accidental Poisoning by Cannabis Indica, or Indian Hemp*.—Mr. Barrow, of Clifton, to alleviate the urgent symptoms of dysmenorrhœa, prescribed fifteen drops of the tincture of cannabis indica in three doses, administered at intervals of two hours. After the last dose the patient became drowsy, but no notice was taken of this symptom, as she had passed a restless night. In the evening she partook of her usual dinner and one glass of wine. During the meal she was incoherent in her speech, and shortly afterwards vomited. She now became unconscious, her extremities cold, her eyes wide open and staring, with contracted and insensible pupils; there were also strong convulsions, and involuntary twitchings of the muscles generally, which continued for a day or two, whether she were awake or asleep. The state of complete insensibility lasted for about a quarter of an hour. During the night there remained a partial degree of unconsciousness, and all the other symptoms in a milder degree. The patient gradually recovered under the use of stimulants. The alarming symptoms in this case would appear to have been due to some idiosyncrasy on the part of the patient, as the dose taken was otherwise disproportioned to the effects produced.

31. *Poisoning by the Seeds of the Datura Stramonium*.—The following case is reported by Mr. Stobo, of Tortola, West Indies.†

C. B., aged 5 years, a stout and healthy boy, the son of Musta parents, ate more than a drachm of the seeds of datura stramonium, taken from a fresh ripe apple; the seeds having been roasted over a fire. When seen, about an hour after, he was much excited, and rather delirious, clinging to the woman who had him on her lap, under the impression of some immediate danger. His pulse was about 120; face flushed; eyes brilliant, pupils dilated; there were also convulsive movements of the limbs and neck, and thick frothy saliva issued from the mouth. A warm bath, calomel, and repeated emetics were administered; the stomach-pump was then applied, and an injection of soap and water thrown up the rectum. The matter evacuated both from the stomach and rectum contained many of the seeds. After this the symptoms appeared relieved, but the tossing of the limbs increased, and there was much flushing of the face; the skin also, naturally of a dull olive colour, became intensely red. He was then bled twice, which relieved him. He continued much in the same state for a day or so; a state of vigilance having succeeded that of terror. The restlessness wore away, and he recovered in the course of two days.

CARBONIC ACID.

32. *Double Poisoning by Carbonic Acid*.—Several interesting questions connected with poisoning by carbonic acid are illustrated by a case reported in the "Annales d'Hygiène."‡

Godin and his wife kept a grocer's shop at Paris, and were in difficulties. On the 15th January, 1847, as they did not appear in their shop at the usual hour, one

* Brit. Amer. Journal of Medicine, and Monthly Journal of Medical Science, Apr. 1848.

† Medical Times, October 9, 1847.

‡ Considérations Médico-Légale sur l'Asphyxie, par le Docteur Henri Bayard; Annales d'Hygiène Publique, Jan. 1848, p. 148.

of the servants knocked at the door of their bedroom, and on Godin desiring him to enter, he perceived by the light of a Carcel lamp, which was still burning, a brazier filled with the ashes of charcoal, a bottle of spirits of wine, and a tumbler. Godin desired the servant to call his brother. The neighbours, informed of the circumstances, came in, and found the wife of Godin lying near her husband, and dead some hours. A medical man was called, who attributed the trifling indisposition of Godin to partial asphyxia, and partly perhaps to the alcohol. Godin stated that he and his wife had determined on suicide; that he had first filled the brazier with charcoal, and that he and his wife, having closed the chimney and the door, went to bed, leaving the lamp alight; that soon after, his wife complained of giddiness, and that he, in his turn, was taken ill; but that, about two o'clock in the morning, having come to himself, he found his wife dead and cold, and the charcoal burnt out; that he then got up, and by the light of the lamp, which was still burning, went into his shop for a bottle of spirits of wine, of which he drank three large glasses, with a view of hastening his death. The wife, 22 years of age, had died of asphyxia. There was no trace of violence on the body. The circumstances of the case, as stated by Godin, appeared to the magistrates so improbable, that they requested MM. Lassaigue, Charpentier and Bayard to institute experiments as tests of the history given by Godin. The three questions submitted to the reporters were—1st. The brazier being filled with the same quantity of charcoal as on the night of the 15th, and the Carcel lamp being lighted, and placed in the position where it was found, would that lamp go out, and how long would it continue to burn?—2d. Is it possible that, in a state of partial asphyxia, Godin could, as he affirmed, leave his bedroom with the lamp, mount upon an open drawer, reach down the bottle from the third shelf, then go back to his bedroom, holding the bottle in one hand, and the lamp in the other?—3d. Is there any analogy between the symptoms of asphyxia and those which would be produced by three large glasses of spirits of wine?—*Answer to question 1.* The bedroom having been arranged exactly as on the night of the 15th, the brazier was filled with charcoal, in the presence of Godin, and of a female who had seen it charged on that night, the Carcel lamp was also charged with oil, and three candles were placed, the first on the window-sill, the second on the ground, and the third within sixteen English inches of the ceiling of the chamber. These arrangements being made, the charcoal, lamp, and candles were lighted, and the chamber closed, a piece of glass having been let into a hole in the door, to observe what passed within.

The door of the room was shut at 20 minutes past 3, when the lamp was burning brilliantly; the flame soon lowered, and at 40 minutes past 3 was diminished half its size; the circular edge of the wick blackened towards 20 minutes past 4, the lower part still retaining its original colour; at 28 minutes past 4, the right-hand side of the flame went out, and precisely at 5 o'clock it ceased to burn; at 45 minutes past 4 the upper of the three candles went out; at 5 o'clock, the two other candles continued to burn, though dimly. The door was now opened, when the charcoal was found covered with ashes, but still burning—exactly one half had been consumed; 616 grains of oil had also been burnt. Thus it will be seen that the lamp burnt 1 hour and 40 minutes; the upper of the three candles 1 hour and 25 minutes; while the two others continued to burn dimly after the lapse of 1 hour and 40 minutes. On calculating the size of the apartment, and allowing for that of the furniture and the two inmates, the volume of air contained in the chamber was found to be 83 cubic feet, English. The quantity of charcoal burnt in this space, allowance being made for cinders, moisture, and volatile matters, amounted to 8106 grains, English; which in burning must have absorbed 16,283 grains, English, of oxygen, and formed 22,389 grains of carbonic acid, having a volume equal to 44,713 cubic inches, at 32° Fahr. of temperature and 30 inches of pressure. The quantity of carbonic acid, therefore, in the apartment at the time of the extinction of the lamp, must have amounted to $\frac{27}{100}$, and the air must have been composed as follows:—Nitrogen, 79, oxygen, 18.29, carbonic acid, 2.71. It should be borne in mind that the temperature of the air of the apartment was considerably raised, which accounts for the upper candle being first extinguished. As at the end of 1 hour and 40 minutes, when the lamp went out, there was 2.7 per cent. of carbonic acid in the air, with per-

haps a half per cent. of carbonic oxide, if we suppose the combustion to have been maintained with the same intensity, there would have been at the end of three hours 4.8 of carbonic acid; the lamp could not, therefore, have continued burning this time, as the experiments proved; and it is inconceivable that Godin could have lived in so deleterious an atmosphere. To render the experiments complete, the lamp was again lighted, and burned in a pure atmosphere for nine hours.

The reporters answer the *second question* in the negative. They were of opinion, from a careful examination of the actions which Godin must have gone through in order to possess himself of the bottle of spirits of wine, that he could not have performed them in his alleged state of partial asphyxia.

They are equally satisfied as to the answers to be returned to the *third question*. Had Godin swallowed the large quantity of spirits of wine which he pretended to have taken, he must have been poisoned; but so far from this being the case, he was found in a condition to reply to several questions addressed to him by the medical man called to his assistance.

The principal value of this case consists in the experimental inquiry to which it led, and the light thereby thrown on the quantity of carbonic acid necessary to extinguish flame. The extinction of the candle placed in the upper part of the room, while the others still continued to burn, is a point of some interest. The explanation of the reporters, however, appears to be defective, inasmuch as they attribute the circumstance solely to the greater expansion of the air in the higher parts of the apartment, overlooking the continual additions of carbonic acid of a high temperature, which are being made to the upper strata of the air during the combustion of the charcoal.

ANIMAL IRRITANTS.

33. *Poisoning by Cantharides—Recovery.*—The following particulars are abstracted from the "Medical Gazette,"* the case having occurred in the practice of Dr. Fisher, of Edinburgh.

On the morning of the 29th of April, Dr. Fisher was summoned to visit Mr. G., a gentleman æt. 26, and of a full habit of body. He had been seized with sudden illness during the night, and was found labouring under incessant vomiting and urgent thirst, accompanied by a burning pain in the throat and stomach. His features were expressive of great anxiety, the tongue was swollen, and thickly coated, the pulse 130, weak and tremulous, and the matter vomited had a greenish colour and offensive smell. There was pain in the lumbar region, and frequent and painful micturition, and the urine was turbid and scanty. He was placed in a warm bath, and allowed to drink very freely of a strong solution of gum arabic, and fomentations were applied to the abdomen. Under this treatment, with opiates, he gradually recovered; the only symptoms requiring more active interference being those of the urinary organs.

It appeared that the cantharides had been taken by mistake for jalap, and that about two teaspoonfuls, mixed with water, was the quantity swallowed. The remaining portion of the powder, Mr. G. asserted, was equal to about half what he had taken, and this was found to weigh forty grains, and was of good quality. "From these facts, and allowing for a little adhering to the side of the vessel in which the patient mixed his dose, I think," says Dr. Fisher, "the quantity of cantharides swallowed may be fairly estimated as having somewhat exceeded a drachm." As vomiting occurred immediately upon swallowing the poison, the favorable issue was probably due to this cause; other cases, however, have been recorded, where a patient has recovered after taking 3j of the powder.

34. *Poisoning by Sausages.*—The "Journal de Pharmacie"† contains the following particulars of the effects of sausages upon three inhabitants of Wurtemberg. The sausages were composed of the liver and brain of pork, bread, and milk, and were seasoned with spice, and smoked. One of the three vomited, had colic, lost his sight, and died in ten days; the second, also, lost his sight and voice, had coldness of the extremities, and was unable to swallow, unless with great diffi-

* May 14, 1847.

† Fevrier 1848.

culty; his eyelids also became paralysed, and at last he died. The third suffered from similar symptoms, but recovered.

Some contributions have been made, during the past year, to the subject of Toxicology generally. Of these the following are deserving of notice:

35. *Symptoms arising from Natural Causes, very similar to those produced by Poison, and followed by Death*—Dr. Letheby has communicated to the "*Pharmaceutical Times*"* several cases of internal hemorrhage, arising from natural causes, in which the symptoms and mode of death were very similar to those caused by poison. In those cases "the attack is sudden; there may be great pain in the abdomen; a constant and violent sickness; then collapse and death—all occurring within a few hours, and supervening upon perfect health. The necessity, then, of a careful investigation in all cases where death has occurred under suspicious circumstances, and of an early post-mortem examination, are apparent."

CASE I. M. A. C., æt. 29, married fifteen months, with regular catamenia, a few days before her death complained of pain in the lower part of the abdomen. On the morning of Thursday, March 13th, after partaking of a hearty breakfast, she was seized suddenly with severe pain in the abdomen, and became sick. A surgeon was sent for, who exhibited opiates, and applied a mustard poultice to the abdomen. At the next visit, about two hours afterwards, he found her with a pale and anxious countenance, blanched lips, dilated pupils, cold extremities, and small pulse. There had been incessant vomiting, and she had complained of urgent thirst. After the exhibition of stimuli, she dozed off, and died about five o'clock. She expired without the least struggle, about nine hours after the first seizure.

Some suspicion being attached to the case, Dr. Letheby was called upon to make a post-mortem examination. This he did two days after death, and found the surface and features quite blanched. The heart was flabby and empty, and the lungs natural. The abdomen was dull and fluctuating upon percussion, and upon opening it about a pint of reddish serum escaped, and a large clot, weighing two pounds, was found beneath the great omentum, and extending into the lower part of the pelvis. The source of this hemorrhage was found to be the left Fallopian tube, which had given way, having been over-distended and rent by an arrested ovum. All the other organs were healthy, the stomach nearly empty, and no trace of poison could be discovered.

CASE II. A. M., æt. 31, married, and the mother of three children, miscarried about three months before her death. Since that time she had occasionally complained of pain in the left side of the abdomen. After her dinner, on January 27th, she was suddenly seized with a violent pain in the abdomen, and in a few minutes she began to vomit, and this continued, at intervals of ten minutes, for nearly two hours. Her medical attendant saw her about four o'clock the same day, and found her in a state of extreme depression, with symptoms similar to those observed in the last case. Stimulants were given, but syncope coming on, she gradually sunk, and died about twelve hours after the commencement of the illness. The post-mortem appearances were similar to those presented in the first case; for in this also the cause of death was internal hemorrhage from the ruptured left Fallopian tube.

CASE III. E. W., æt. 27, married, and had borne one child. She had been well up to the morning of her attack, when she was suddenly seized with pain in the abdomen. Sickness and collapse then occurred, and she died ten hours and a half from the seizure. The cause of death in this case also was internal hemorrhage, due to the rupture of the right Fallopian tube. No traces of poison were detected in the stomach or its contents.

In remarking upon these cases, Dr. Letheby says, "that if the inquiry be instituted directly after death, there will not be any difficulty in tracing the cause, as it will be discovered by the post-mortem examination; not so, however, if a long time has been allowed to go by. We can suppose a case, for example, in which suspicion is not aroused until some months have elapsed, and then we have not the positive evidence of the post-mortem inspection to clear it up. Decomposition may have removed every trace of the cause of death, and now we must

* January 9, 1847.

rely upon the symptoms and upon the manner of their accession. If a woman, when did she menstruate last? How was she seized? What was the character of the vomited matter? Were there great faintings before death? Did she look pale? And did she die without struggle, or coma or delirium? And, after death, was there the same blanched appearance of the countenance, the lips, and the mouth? These are the chief points to be sought into; and out of them, together with the absence of a mineral poison in the body, we are to frame an opinion. Arsenic, and oxalic acid, and bichloride of mercury, and even hydrocyanic acid, and the mineral acids, and the alkalies, may produce symptoms somewhat like the preceding; but then the vomited matter would be discoloured or bloody (!); and in the case where a metallic poison had been used, it would be readily detected in the body while any of its tissues remained. I do not know of any organic poison, whose effects would at all simulate those arising from hemorrhage; in opium, where the approximation would be nearest, there would be profound coma."

The above cases, as well as others alluded to in the same paper, are valuable, as clearly demonstrating the necessity of a medical opinion in all cases where death happens either suddenly or after the occurrence of suspicious symptoms.

36. *A Review of the Various Antidotes.*—A paper on this subject will be found, by M. Bouchardat, in the "*Nouvelle Encyclographie des Sciences Médicales*," in which a review of the whole system of toxicology, as far as regards the application of antidotes, is taken by the author. As there does not seem to be much new matter in the essay, the reader is referred to the paper itself.

With regard to the mineral acids, he recommends the exhibition of magnesia, suspended in water, to counteract their effects; and the after administration of a solution of bicarbonate of soda, with a view of forming a soluble salt with the acid, so as to render it capable of absorption by the blood.

With regard to arsenic, he strongly coincides with M. Bussy on the efficacy of magnesia in cases of poisoning by this substance.

In poisoning by the vegetable alkaloids, opium, and the narcotico-acids, he believes that he has employed with success a mixture of about three grains of iodine, and six grains of iodide of potassium, in about a pint of water, of which a small glassful is to be taken from time to time. But he does not recommend it to the exclusion of all the usual means of combating the effects of these poisons, nor does the *modus operandi* of the antidote appear very obvious.

37. *Detection of Poisons in the Urine.*—Dr. Letheby has been led to inquire whether the various poisons might not be eliminated by the kidneys, and if so, whether their existence in the urine might not furnish a hint for the treatment of cases of poisoning; and, thirdly, whether their detection in the renal secretion would not supply evidence of a valuable character for the guidance of the medical jurist.

He has detected all the mineral acids and oxalic acid in the urine, as well as soda, potassa, and ammonia, nitrate of potassa, iodide of potassium, sulphate of magnesia, &c., and some of the salts of arsenic, lead, mercury, copper, iron, and silver. With regard also to the organic poisons, he has found that their active principle (in case of opium, belladonna, hemlock, aconite, &c.) would in part pass through the system and appear in the urine unchanged.

With regard to the second question, he found that diuretics were of great value in eliminating poisons administered to animals, and that they assisted considerably in their recovery.

The third question was an important one, as the urine might be the only secretion at the disposal of the chemist; the evidence also deduced from it might be of a positive and satisfactory kind; the poisons are also more readily detected in it than in the tissues, and they exist there to a larger amount than in any other part of the body.

The conclusions to which he has arrived are these: 1st. That many poisons are absorbed into the circulation.

2d. That these poisons are eliminated by the kidneys, and can be detected in the urine, either by their chemical or physiological reactions.

* *Fevrier* 1847.

† *Lancet*, Jan. 23, 1847.

3d. That these facts, together with others, from experiment, point to the value of diuretics in the treatment of cases of poisoning.

4th. That it is possible to obtain, from an examination of the urine, some of the most valuable and certain evidences regarding the administration of a poison.

5th. That we should not omit to examine this secretion in every case of suspected poisoning.

38. *Test of the Presence of Minute Quantities of Alcohol.*—As the determination of minute quantities of alcohol is a chemical point of some importance in judicial cases, the following plan is proposed.* The fluid to be tested, if coloured, or a mixed one, is to be distilled in a water-bath until one-third passes over. Should the liquor contain any acetic acid, this should be saturated, previous to distillation, by carbonate of soda, in order to remove the odour of vinegar, which might interfere with the subsequent test. Into the distilled fluid should be dropped a crystal or two of chromic acid and the liquor stirred. If the smallest quantity of alcohol be present, the green oxide of chrome will begin to be disengaged, and at the same time the smell of aldehyde is distinctly perceptible. By means of this test it is possible to distinguish a drop of alcohol in an ounce of water. Bichromate of potassa and sulphuric acid will answer sufficiently well, if chromic acid be not at hand. The simplest way to apply the test is as follows: drop a few grains of powdered bichromate of potassa into a small flat glass (which tapers to the bottom) containing the solution to be examined, and add a few drops of oil of vitriol. If alcohol be present, the green oxide is perceptible on the surface of the undissolved salt, and the odour of aldehyde is easily recognised.

39. *Action of Poisons.*—Mr. J. R. C. Walter, in speaking of a poisonous leguminous plant from Swan River, New South Wales,† says, that “when the seeds fall on the ground, the wild pigeons greedily feed and fatten on them; if the crops of these pigeons, containing the seed, be eaten by dogs, they die, yet the pigeons themselves, when dressed, are good food, and at that season are eaten in large numbers by the settlers. The flesh of sheep and cattle that have died from eating the plant, is poisonous if eaten raw by dogs, but when cooked, either by boiling or roasting, it ceases to be poisonous.” A report on the poisonous action of this plant, by Dr. A. Frampton, is appended to Mr. Walter's paper.

§ II.—Infanticide.

40. *Sinking of the Lungs in Water no Proof of Still-birth*—Dr. Davies, of Hertford, has published the following remarkable case, as evidence “that the sinking of the lungs in water, either wholly or divided into parts, is not an absolute proof that a child has been born dead.”‡

On the 27th November, 1847, the body of a fœtus, which had been found buried in a garden, was brought to Dr. Davies. The body was thirteen inches long, the eyelids were adherent, the testicles had not descended, and it weighed one pound and three quarters. From these and other particulars, it was supposed to have arrived at between six and seven months of utero-gestation. The lungs were firm, like liver, and sank, both wholly and in parts, when put into water. The right lung was of a dark mahogany colour, but the upper lobe of the left lung was of a lighter hue than any other part of the lungs, and this, also, sank in water.

An old woman, who was examined at the inquest, stated that she was sent for to the mother, and that when she arrived, she found the child, with the placenta attached to it, in the close-stool, and she noticed that the child moved its arms. She then wrapped it up, with the placenta, in flannel. It continued to move its limbs for ten minutes, but it uttered no cry. It was not separated from the placenta until it had ceased to move.

This case affords a distinct proof that a child may be born alive, and yet that after death the lungs may be found to sink in water. In the absence of evidence of any very distinct and effectual effort to inspire, it is to be regretted that the upper lobe of the left lung, which is described as being of a lighter hue than any

* Monthly Journal of Med. Science, and Pharmaceutical Times, July 17, 1847.

† Pharmaceutical Journal, vol. vi. p. 311.

‡ Med. Gaz., Dec. 10, 1847.

other part of the lung, was not carefully examined, with a view of ascertaining whether or not the air-cells were developed. If no developed air-cells had been discovered, the case would have been very valuable, as proving the possibility of a child having been born alive, and continuing to live several minutes, without breathing—a possibility which it is of much importance to establish. It is obvious that the lighter hue of the upper lobe of the left lung could only have been due to the contact of air with the external surface of the lung, or to its admission within its texture. If the former alternative were the true one, other portions of the lung ought to have undergone the same change; the latter alternative, therefore, would appear the more probable. In which case we should have an additional example of respiration so imperfect as not to render buoyant even the portions of lung which have received air. It is probable that these cases are more numerous than is generally supposed.

41. *Fracture of the Parietal Bone—the result of Violence or Accident?*—The following case is interesting for the satisfactory manner in which the question has been answered.

Dr. Wharrie* was called upon to examine the body of an infant which had been found buried secretly at Calder. According to the mother, who was unmarried, but who had borne three children, she had undergone a severe labour, extending over three days, and that no one was with her at the birth of the child except her mother, whom she considered as capable of doing all that was required. The child, according to the account of its mother, and the neighbours, who came in after the delivery, was stillborn, and was afterwards secretly buried. It was, however, discovered about a month after this time, and the matter properly investigated. The body of the child presented no external injury, but the cranium, near the posterior fontanelle, was swollen and puffy, and when pressure was made upon the forehead, blood issued from the right nostril. The body exhibited signs of incipient putrefaction. The child weighed seven pounds, and measured 21 inches. Upon opening the chest, the lungs were found of a dark colour, with sharp edges, and occupying but a small space at the posterior part of the chest, and not covering the heart or pericardium, and the diaphragm was arched upwards. The lungs did not crepitate at all, and when placed in water readily sank, and all the pulmonary vessels were found empty. The foramen ovale was open, and the right cavities of the heart devoid of blood. Upon examining the scalp, a small quantity of blood was found extravasated beneath the pericranium at the part where the scalp felt puffy, as well as a small amount on the right side. Upon removing this, a fissure was seen at the edge of the left parietal bone, close to the line of the sagittal suture, and near the posterior fontanelle. There was no depression or discoloration of the scalp at this part, or any other sign of a blow having been inflicted. The brain was soft, and there was slight extravasation in its substance.

From these appearances, Dr. Wharrie concluded, that the child had been born at the full period, and that it had not respired, even feebly; that the immediate cause of death was simply the violent contractions of the uterus, or, possibly, the prolapse and consequent compression of a portion of the umbilical cord. There was, therefore, no evidence of infanticide, nor, as it afterwards appeared, of concealment of pregnancy.

42. Another case, bearing upon this point, is quoted from a recent number of the "*Gazette Médicale de Paris*."† The body of a child was exhumed for examination, its death having been connected with suspicious circumstances. The mother's statement was, that suddenly, while sitting near the fire, she was seized with labour-pains, and that while endeavouring to reach the bed, the child was expelled, and falling upon the floor, injured itself in the manner hereafter to be described. The midwife stated also that the child died about four hours afterwards. It could not be ascertained whether the umbilical cord had been broken at the moment of birth. It should be stated that the mother was a primipara, aged 21, and that the floor of the room in which the delivery took place was made of planks, which were worn into holes in some parts, and covered with lime and gravel. The body of the infant was that of a female, strong, stout, and

* *Monthly Jour. of Medical Science, and Med. Gaz.*, January 1847.

† 11 *Mars*, 1848.

well formed; with a bandage round the abdomen, covering the umbilical cord, which was firm, dry, and half an inch long, with an irregularly-cut surface. Over the middle of the left parietal bone there was a stellate wound, and a rounded layer of the scalp, adhering only at its anterior and exterior margin, covered the wound. The bone was bare in this part, and the pericranium partially detached. An extensive ecchymosis raised the scalp from the cranium, and the bones were infiltrated with blood; otherwise the cranial bones were healthy. On the inner surface of the cranium, at the part corresponding to the external wound, there were a red discoloration and a fissure, and considerable effusion of blood between the hemispheres. The brain, otherwise, was healthy, as were the heart and lungs, though a small extravasation was found also on the convex surface of the liver. The umbilical arteries were quite open, and divided near the umbilicus, and the stomach held a clear liquid, in which were observed a few streaks of blood.

The conclusions deduced from these appearances were: 1, that the wound in the head could not, by any means, be the result of a fall during delivery in the standing posture; 2, that the extent of the wound, the laceration, and the effusion beneath the membranes, proved violence; and 3, that death had been caused by violence, and partly, probably, by hemorrhage, and that the fissure in the skull confirmed the opinion as to violence. In answer to other questions, the medical witnesses stated that it was improbable that the mother had inflicted the injury during labour, or that the labour itself had been the cause, as the process was generally a gradual one; and, moreover, that it was unlikely that the mother should have done it after labour, as the state of exhaustion would prevent her.

The possibility of extensive injuries, attended with extravasation, and even fracture of the bones of the cranium, being inflicted on an infant during labour, has been sufficiently established by the observations of Dr. Schwörer, of Fribourg. Where they are the result of violence, *purposely applied*, the extent of mischief is generally very much greater than in either of the above cases. Wherever the injury is slight, there is a fair presumption of accident.

§ III.—Feigned Diseases.

43. *Application of Ether*.—M. Bouisson, of Montpellier,* has entered somewhat minutely into the medico-legal use of ether inhalation. The cases in which he recommends its employment are those of feigned deafness, dumbness, stammering, and contraction of the back or limbs. After quoting M. Baudens' case (see "Abstract," Vol. V. p. 320), he adds, from his own experience, a case of feigned contraction and atrophy of the muscles of the throat readily detected by the use of ether. The atrophy was produced by the application during the night of a tight bandage. The author points out at some length the bad use that may be made of ether inhalation by non-professional persons, and quotes from the *Presses* newspaper a revolting case of rape committed by a dentist, who employed the ether for professional purposes.

§ IV.—Unsoundness of Mind.

44. *Is Consciousness of Right and Wrong a just Test of Partial Insanity?*—The plea of insanity in criminal cases has been lately examined by Dr. Robertson, of Yarmouth.† The following is an abstract of the conclusions at which he has arrived.

Under the term partial insanity, as opposed to dementia and idiocy on the one hand, and to mania on the other, are included the following varieties:—monomania, moral insanity, and instinctive insanity. The existence of the latter, however, is not recognized by the law of England.

1st. *Monomania, or partial derangement of the understanding*.—This variety is characterized by the presence of an intellectual delusion or hallucination, which leads naturally to false deductions and to insane conduct. A person so affected may, however, betray no symptoms of mental derangement on a subject uncon-

* Gazette Médicale, 21 Août, 1847.

† The Edinburgh Medical and Surgical Journal, No. 172, July 1847.

nected with this erroneous impression. Dr. Robertson, however, does not agree with Dr. Conolly that the disease is thus limited in a large proportion of such cases, but states that a further examination of the phenomena of the disease will show that there are present a series of delusions having reference to the patient himself, or his friends, and that though he can argue reasonably and converse rationally on all subjects, yet that there generally exists a morbid state of the moral principle or conscience, which state is evinced by the perversion of one or more of the desires or affections, a perversion existing prior to the manifestation of any intellectual disorder. The delusion, then, is but the progress of disease in a mind already disordered.

This view, that the primary disorder in monomania is disease of the moral principle, involving the loss of consciousness of right and wrong, as evinced by perversion of one or more of the moral feelings, is corroborated by the testimony of Pritchard, Ray, and Georget, and also by an analysis of the progress of the healthy mind to intellectual misgivings and doubts as to the truth of Divine revelation.* In this, as in monomania, conscience first ceases to be the regulating principle of the character, and from this perversion of the moral principle flow inventions of the mind, which in their turn become the regulators of its emotions.

The order and succession of the morbid phenomena above sketched, are well illustrated in the case of William Stalker, who was tried for the murder of his wife at the Cumberland Lent Assizes, February 1847,† in which the supervention of intellectual delusions was preceded by disease of the moral principle.

2d. *Moral insanity*.—This form consists in morbid perversion of the desires and affections, unattended by disorder of the intellectual faculties. In this, as well as in the case of monomania, the influence of the moral principle or conscience has been neglected, or is torpid or non-existent. Persons thus affected may be enabled to reason and support an argument upon any subject within their sphere of knowledge, and they may often display great ingenuity in giving reasons for their eccentric actions, and in accounting for and justifying their existing state of moral feeling. "In one sense, indeed, their intellectual faculties may be termed unsound: they think and act under the influence of strongly excited feelings, and persons accounted sane are, under such circumstances, proverbially liable to error, both in judgment and conduct."‡

This loss of power of the moral principle, evinced by the disordered action of one or more of the desires or affections, is followed after a time by weakness of the intellectual faculties, by which the sufferer becomes unfit for the discharge of the duties of life; his inability to appreciate moral guilt frequently rendering him a dangerous member of society. An instance of this form of insanity is seen in the case of John Howison,§ who was tried at Edinburgh in 1831 for murder, and executed, and thus "fell a victim to ignorance."

Conclusive evidence of general perversion of the moral feelings, or disorder of one or more of the affections or desires, therefore, "as clearly proves the loss of consciousness of right and wrong, annulling thereby criminal responsibility, as total loss of the intellectual faculties, or disorder of one or more of them, proves that the dictates of reason have ceased to exert their influence."

3d. The third variety of partial insanity is that termed *Instinctive Insanity*. This form is characterised by a sudden impulse to the commission of crime, seizing one whose intellectual and moral powers are alike healthy. In this form, there exists a knowledge of the impulse as well as a full appreciation of the extent of the guilt incurred, together with a striving against the impulse. The volition is here also diseased, and acts in opposition to the dictates both of judgment and the moral principle. A person thus affected "ne présente aucune altération appréciable de l'intelligence ou des affections. Il est entraîné par un instinct aveugle, par quelque chose d'indéfinissable qui le pousse à tuer."|| Though this form is not recognized by our laws, yet persons laboring under it have been acquitted, when indicted for murder, on the plea of insanity.¶

* Abercrombie's *Moral Feelings*, Lond. 1846, pp. 116 *et seq.*

† An account of this case is appended.

‡ See Abercrombie, *op. cit.*

§ Esquirol, *Des Maladies Mentales*.

¶ Case of Martha Brixey, *Times Newspaper*, 17th May, 1845.

§ *Edinburgh Law Journal*, No. 6.

45. *Plea of Insanity—Case of William Stalker—Acquittal.*—William Stalker was tried at the Cumberland Lent Assizes, 1847, for the murder of his wife.* From his history, it would appear that, for some months previous to the murder, he had become unsettled and inattentive to his affairs, which state of mind had been attributed by his friends to disappointment with regard to a will. He became gradually more and more unsettled, and conceived a dislike to various members of the family, and on one occasion threatened the life of his medical attendant. On another occasion, he even mixed arsenic with the food of his family and servants. After this he was sent to the Cumberland Asylum, where he continued about six months, when he was removed, in opposition to the wishes of his medical advisers. On his return home, he began to conceive ungrounded jealousy against a man who had made honourable proposals to his daughter, and soon began to exhibit hallucinations. On the 29th of December, 1846, he returned home, and went into the adjoining farm in search of his wife. His son returned the same night and found his mother dead on the floor of the farmhouse. William Stalker was found the next day hidden behind a holly-bush, and, after attempting to escape, surrendered and confessed the murder, nor did he even vary in the story. On being informed by Baron Alderson that he stood charged with the wilful murder of his wife, he interrupted his lordship, and said, "Na, na, not wilful, not wilful, my lord." All the witnesses concurred in the opinion, that he was not in a position to distinguish right from wrong, and the jury accordingly acquitted him.

46. In the following case, also, the plea of insanity was successfully set up. Mary Sweetlove, a married woman, æt. 37, was charged with the murder of her infant son by drowning, at Sandwich. It appeared from the witnesses, that the prisoner and her family, during last winter, had been in very reduced circumstances, and, being unable to pay her rent, the landlord intimated that he could not allow her to remain in her lodgings any longer. This preyed so much upon her mind, that it appears she left the house with her son, and, being driven to desperation by the prospect of being turned from her home, she threw the boy into the dyke, where the body was afterwards found. It was also proved that, for some time previous to this affair, the conduct of the woman was such as to lead to the conclusion that her mind was affected. After the melancholy occurrence, she remained for some time in a wild and excited state. She confessed the murder; but was acquitted on the ground of insanity.†

47. *Double Murder—Plea of Insanity—Conviction.*—The following trial took place before the court of assize, at Ardèche. J. J. A. was accused of having murdered his wife and father-in-law, under the following circumstances. The prisoner was of a violent temper, and had been at variance with his father-in-law, but reconciliation having taken place, he and his wife went on a visit to his house. The next day, while the father was engaged with business, the prisoner and his wife went out into the garden; the latter, feeling fatigued, sat down at the margin of a pond, when her husband seized her, and, inflicting three wounds with a knife (which he had sharpened over night), threw her into the water. He then went into the house, and urged his father-in-law to come out with him into the garden, which he did, but he had hardly entered the court, when the accused twice stabbed him, and, throwing the knife on the roof, hid himself in a dark vault. Both his victims died.

From the time of his arrest his conduct was that of a deranged person, and, after refusing for a long time to answer any questions, he confessed the murder, saying, that he did it under the influence of an hallucination excited by the sight of the chain worn by one of the officials, who had been engaged with his father-in-law. The plea of insanity was set up, and before the court he appeared calm and collected, and stated that he had no cause of complaint against either his wife or father-in-law; that he was in daily fear of the police, and that he had sharpened his knife to defend himself, and not to kill his relatives. One medical man had previously recommended him to be confined, but others considered the insanity

* For a full account of the case, see Dr. Robertson's paper, in *Edinburgh Med. and Surg. Journal*, July 1847.

† *Dublin Medical Press*, April 12, 1848.

feigned, and declined to pronounce any opinion on the state of his mind when he committed the crimes. The jury found a verdict of guilty, with extenuating circumstances.*

48. *Suicidal Mania*.—A melancholy case of this kind occurred towards the end of last year, in the person of Professor M'Cullagh, who destroyed himself by cutting his throat with a razor. The fatal act was committed during a period of despondency, following on close application to study. The evidence of Dr. Stokes and of Mr. West, a barrister, proved that the mind was deranged, though not to such an extent as to have attracted the attention of a careless and indifferent observer.†

§ V.—*Sudden Death*.

49. *Question of the Validity of a Contract*.—A case, remarkable for the difference of opinion expressed by the medical witnesses, occurred about a year since in France.‡ The investigation took place in consequence of the deceased having bought an annuity ten days before her death; which contract was attacked by parties interested in the matter, as the Code Civil declares that contracts become null and void, if made by persons affected with any illness which proves fatal within twenty days from the date of the contract.

The subject of the inquiry, a female, aged 73, had enjoyed good health until the month of May 1839, when some cutaneous disease developed itself on her right arm, where an issue had formerly been. The issue had dried up, and another was applied to the arm, which also cicatrized quickly. The cutaneous disease disappeared, and the deceased gradually became blind, thin, and weak. On the 16th August she went to church, ate some vegetables during the day, and talked in the evening with her neighbours. The next morning she was found dead in bed, as though asleep.

The questions proposed to the medical witnesses were—1st. Was the deceased suffering under any malady at the time she made the contract? 2d. If so, was the illness of which she died the termination of that with which she was affected at the time of the contract?

Five medical witnesses, consulted by the party who denied the validity of the contract, answered both questions in the affirmative, stating that death resulted from apoplexy, the natural consequences of her former illness. Seventeen medical men, on the other side, considered that the deceased was ill at the time of the contract being made, but that she, in all probability, died from an attack of apoplexy, which was independent of the primary affection. This being insufficient, MM. Récamier, Cayal, and Devergie were requested to state their opinions; which were to the effect that the deceased was suffering from illness at the time of the contract, and had been so for some time previously; and that, in reference to the second question, they were unanimous in considering her sudden and unexpected death as the consequence of the chronic malady with which she had been affected for the last three months.

The decision of the court is not stated in the periodical from which we have quoted. The case is given chiefly as an illustration of the difference of opinion prevailing among the large number of medical witnesses who were examined.

§ VI.—*Survivorship*.

50. *Presumption of Survivorship*.—On board the steamboat *Pulaski*, which perished at sea in the month of June, 1838, was Sylvanus Keith, his only child Caroline Coye, her husband George Coye, and their only issue Caroline Coye. Sylvanus Keith was about seventy, Mrs. Coye about thirty-three, her husband about thirty-seven, and their child about eight or nine years old. The judge of

* *Gaz. Méd. de Paris*, 7 Novembre 1846, *Gazette des Tribunaux*, and *Month. Jour. Méd. Science*, Jan. 1847.

† *Dublin Medical Press*, Nov. 10, 1847.

‡ *Gazette Médicale de Paris*, 24 Avril, 1847.

§ *Coye v. Leach*, Metcalf's *Massachusetts Reports*, in *American Journal of Medical Sciences*, Jan. 1847.

probate directed a distribution of the personal estate of Sylanus Keith to be made by his administrators among his nephews and nieces, as his heirs at law.

The administrator of the estate of George Coxe, and the next of kin of the infant Caroline, being the brothers and sisters of George Coxe, appealed against the decree of the judge of probate, as there was a possibility of the infant having survived her parents or grandfather, and if so, the former decree must be set aside.

Judge Dewey, of the Supreme Court of Massachusetts, delivered his opinion, to the effect that as there was no evidence to show which of the parties survived, the question must be settled on independent grounds. After mentioning the provisions of the civil law, according to which the daughter would be presumed to survive the father, and the child, if above the age of puberty, its parent, he went on to say: "But no such doctrine has any sanction in our system of jurisprudence, either as a principle of the common law, or as enacted by legislative authority. Under these circumstances, the court was of opinion that the weak age and strength of the child were less adapted to sustain her in the struggle for life than those of her mother or grandfather. As to these latter, as the greater age of the one was opposed by the weaker sex of the other, there was no presumption in favour of either." He then confirmed the former decree of the judge of probate, and placed the distribution of the estate in the hands of the administrators of Keith, to the exclusion of those who claimed as heirs of the infant Coxe.

§ VII.—Suffocation.

51. *Suffocation caused by Pressure on the Mouth and Nostrils, followed by Submersion.*

—The following case possesses some points of interest. On the 25th of June, 1847, the dead body of a young man was taken out of a well, into which, according to his father's account, he had thrown himself. Some doubt having been expressed as to the truth of this statement, the body was examined by the *juge de paix* and an *officier de santé*, who, on a superficial examination, finding on the body no marks of violence inflicted during life, came to the conclusion that the deceased had committed suicide. The body was accordingly buried; but fresh suspicions having been excited, it was ordered to be disinterred, and submitted for examination to Dr. Cisseville, who, in addition to several bruises on the extremities, which might have been occasioned by the fall of the body, or during its extraction from the water, discovered coagulated blood at the back of the head, a bruise immediately below the malleolar process of one of the lips, and an erosion on each *ala nasi*. On carefully inspecting the face, Dr. Cisseville found that the external surface of each nostril was the seat of an abrasion visible to the naked eye, and still more so by a lens. The injury on the right side was more strongly marked, and accompanied by a slight solution of continuity. These injuries were obviously not post-mortem changes, nor could they have been the effect of a fall; they could only be reasonably attributed to the pressure of the finger and thumb, the latter of which had occasioned the more severe injury, accompanied by a scratch of the nail on the right side. It was the opinion of the examiner that two persons had combined to destroy the deceased. Some hemorrhage had taken place from the nose. The air-passages contained no water or froth—a circumstance, in the examiner's opinion, favouring the supposition of death before submersion. The absence of cerebral congestion in a body taken from a well nearly 150 feet deep, confirmed the view taken by Dr. Cisseville, and adopted by the jury, that the deceased had been murdered by two accomplices in guilt, the father and uncle.*

52. *Suffocation by Pressure on the Mouth and Nostrils.—Burns inflicted after Death.*

—A second case, equally interesting with the foregoing, but where the objects surrounding the body were so disposed as to simulate death by burning, is recorded by Dr. Henri Bayard.† A female, named Dalke, 70 years of age, lived alone in a small apartment, attended by a woman who left her every evening. On the 22d of December, 1846, she was found dead in her bed, the window-curtains drawn, and the shutters closed. There was neither fire nor smoke in the room, but a very disagreeable odour. The deceased lay on an iron bedstead, the mat-

* *Gaz. Méd.* 4 Septembre, 1847.

† *Annales d'Hygiène Publique et de Médecine Légale*, Jan. 1848, p. 141.

dress, pillows, and bedclothes undisturbed, and the body in a position which proved that she had made no attempt to get out of bed. She lay on her back, with her head on the uppermost of two pillows, the legs close together, directed towards the side of the bed, and the knees bent. The arms lay close to the sides, the right hand, with the fingers flexed, placed upon the chest, the left hand, also contracted, was raised towards the face. The upper surface of the mattress, at the head of the bed, was burnt, as was also the upper side of the pillows; the wool of the upper mattress was burnt to a cinder, while that of the lower one was scarcely touched. The sheets were burnt on the left side of the bed.

It was, at first, supposed that the deceased had been accidentally suffocated by the smoke arising from the burning of the mattress. The remains of a match, half consumed, were found near the bed; and to this the burning was attributed. Drs. Bayard and Coqueret were required to make an examination of the body, and to report upon the case. The examination of the body was made about fifty hours after death; it was in a perfect state of preservation, and still rigid. The body was covered with a cotton shift and flannel waistcoat, of which the sleeves and the left side of the body were burnt. The hair, the eyelashes, and eyelids had escaped, as also the skin of the face; the left arm, forearm, and hands were covered with burns, exhibiting dry vesications slightly raised above the surface. The edges of the burns were pale. From the left clavicle to the hip, the sides of the chest and abdomen were also the seat of burns with pale borders, and vesicles containing no serum. The upper eyelid of the left eye was ecchymosed, and blood was effused along the whole of the lower edge. There was also a slight bruise at the inner angle of the eye. On the left cheek there were three parallel linear excoriations, extending obliquely from within to without, and from above to below, separated from each other the third of an inch English; the upper excoriation was half an inch long, the second and third about three quarters of an inch. In form and appearance these excoriations resembled the scratches of a nail; at the level of the third excoriation the skin had the appearance of parchment, to the extent of three quarters of an inch; a little below, it was turned yellow by the smoke. The tongue was protruded between the teeth; the lips bruised; the mucous membrane abraded transversely; the edge of the right nostril and of the septum of the nose were also bruised, and presented, by their violet tint, a striking contrast to the parchment-like appearance of the skin in the situation of the burns. On cutting into these parts, it was clear that these appearances were due to an infiltration of blood into the cellular tissue. The down and hairs covering the upper lip, the opening of the nostrils, and the chin, were neither burnt nor singed. There was no trace of violence or of burns on other parts of the body. There was no bruise or wound upon the head, no fracture of the bones, no mark of injury on the neck or chest. The internal appearances were as follows:—*Brain*. Great congestion of the membranes of the brain, and of its substance, which presented numerous bloody points; but there was no hemorrhage into the substance or ventricles of the brain.—*Lungs*. Internal surface of the trachea of a reddish-brown colour; the tube filled, in common with the bronchia, with a fine white froth, stained with blood; the tissue of the lungs was gorged with liquid blood, and there were effusions of blood under the pleura. The *heart* contained very fluid blood. The *stomach* was distended by food partly digested. From the appearance of the food, the examiners estimated the time which had elapsed from the taking of food to the death at one hour at least, and three hours at the most. Neither the stomach nor intestines presented any trace of disease.

The examiners, as the result of their inspection of the body and bedding, and a careful consideration of all the circumstances of the case, arrived at the following conclusions:—1st. That the death of the widow Dalke was caused by asphyxia. 2d. That the bruises observed upon the lips, nostrils, and left eye, and the excoriations upon the left cheek, led to the conclusion that the asphyxia was by suffocation, produced by the pressure of the hand upon the mouth and nostrils. 3d. That the burns were inflicted after death.

The disappearance of the greater part of the valuables of the deceased confirmed the presumption that a crime had been committed. Six parties were accused; of whom two were condemned for the murder, and two others as accomplices in the theft.

The confession of the chief criminal confirmed the justice of the conclusions drawn by the medical examiners. According to this confession, the deceased was surprised in bed, and stifled by the hand; and the bed was set on fire, in order to encourage the belief in an accidental fire, and to efface the traces of the murder, committed two hours after the supper of the deceased.

§ VIII.—Wounds.

53. *Wounds from Firearms without Ball.*—Dr. Paul Swift, of Philadelphia,* has made an acceptable contribution to our medico legal knowledge of this species of wound. His experiments were made with a view to the evidence he was called upon to give in relation to the following case:—William Simler, a minor, fired a pistol, charged with powder only, at Robert W. Pitt. Pitt staggered into the arms of his friends, crying out, "I am shot." Simler, thinking him frightened, but not hurt, said, laughing, "It was not loaded; it had no ball in it." A wound was inflicted on the fleshy part of the left hip, above and behind the trochanter major, about one inch in diameter and four inches in depth; the integuments were destroyed, and the muscles presented a mangled, blackened mass: it bled but little. The lad went on well till the sixth day, when tetanus came on, and proved fatal on the seventh day. In the wound, after death, a minute fragment of woollen cloth was found about two inches from the surface, and the wound was blackened through its whole extent with grains of gunpowder. The wound was four times as large as that which the ball of the pistol would have caused. At the inquest there was much discrepancy in the testimony as to the distance at which the pistol had been held from the wound; the patient himself had expressed his belief that the pistol "almost touched him," while the witnesses differed from one foot to two or three yards. This difference is accounted for by the circumstance that the pistol was fired at night, in a place badly lighted, and in a moving throng of some twenty persons.

The following are the results of experiments made by Dr. Swift, and used at the trial, on an emaciated male subject, about thirty-five years of age, which had been preserved by corrosive sublimate, whereby the tissues were much hardened. The pistol, which was the same used by Simler, had a bore of about four inches long, and half an inch diameter. It was wadded with paper, and had an ordinary charge.

Experiment 1. Fired twelve inches from fleshy part of hip, covered with one thickness of broad-cloth, and a twilled cotton cloth. Clothes torn, and skin abraded. Wadding on the floor on fire.—Ex. 2. Distance six inches. Part covered as before. Clothes torn, wadding lodged one inch and a half below the surface. Ex. 3. Part covered as before. Distance two inches. Wound ragged, blackened with powder, and penetrating, one and a half or two inches, to the bone. Wadding immediately beneath the integuments, and somewhat on one side of the principal wound.—Ex. 4. Distance one and a half inch from the ribs of the right side. No covering of cloth. Wound penetrated the cavity of the chest, the wadding passing between the ribs through the intercostals.—Ex. 5. Distance one inch and a half. No covering of cloth. The integuments removed, wadding penetrated the chest, carrying away a portion of the rib.

—The duel which proved fatal to M. Dujarrier, and which in some of its circumstances reminds us of a late trial in England, has given rise to some questions, which M. Boutigny, the chemist, was required to investigate. A party present at the duel stated that on inserting his finger into the barrel of the pistol with which the fatal shot was fired, it was blackened, and it was alleged in defence, that this might have happened by the firing of a percussion-cap, with or without a charge of powder, with a view to try the pistol. M. Boutigny proves, experimentally, that after the firing of a percussion-cap, or even of ten percussion-caps in succession, the finger inserted into the mouth of the pistol is neither blackened nor stained; that the firing of an ordinary priming slightly soils, but does not blacken the finger; but that on firing a charge of powder, with or without ball, the finger

* *Hurston's Medical Examiner*, March 1847.

is blackened, and the more so if the firing is repeated.* Some other questions of less interest are also examined.

54. *Lacerated Wounds of the Internal Viscera.*—One of the most revolting cases on record will be found in a recent number of the "*Annales d'Hygiène*,"† with some valuable comments on the subject of *Plaies par Arrachement*, from the pen of Dr. Ambrose Tardieu. The husband of a poor woman, who had already several times caused her to miscarry, brought his crimes to a climax by forcibly rupturing the uterus, and tearing away a large portion of the small intestines. It appeared in evidence that she survived this severe injury about three quarters of an hour, which was regarded as so improbable, that Dr. Tardieu, with Professors Orfila and Cloquet, were requested to report upon the case. It appears that the female had sustained the following injuries:—A rupture of the upper part of the vagina and of the uterus, nearly four English inches in length; a loss of a portion of the substance of the womb; several rents in the peritoneum, large enough to allow the hand to pass into the cavity of the abdomen; the loss of the whole of the small intestine, with the exception of nineteen English inches at the pyloric extremity, and about three inches at the lower extremity; and the removal of a considerable proportion of the mesentery. From the torn appearance of the several parts, it was clear that the injury had been caused by some blunt instrument. The cavity of the abdomen contained a considerable quantity of blood. Dr. Tardieu, in discussing the question submitted to the reporters, illustrates it by citing several cases bearing more or less closely upon it, such as severe injuries of the brain consistent with long survivorship; a case observed by himself, in which a man survived a severe wound of the heart a quarter of an hour, and spoke up to the last moment; and a second case which came under his own observation, where an individual, who had received a wound which traversed the lungs, heart, and stomach, through and through, was able to descend a ladder, remount a second, and gain his room before he lost his consciousness. He then goes on to quote the familiar instances of insane suicides, who have wounded themselves several times in the abdomen, opened its cavity, drawn out the intestines, and mutilated them, without being interrupted by pain or immediately arrested by death; the case recorded by Professor Paul Dubois, of an apothecary, who, in a furious access of delirium, opened his abdomen and removed a portion of the mesentery, from which injury he recovered; another case, on the authority of Devergie, of rupture of the diaphragm, spleen, and small intestine, in the person of a carman, who afterwards completed a long journey, and survived eighteen hours; the well-known long survival of the horses eviscerated in the Spanish bull-fights; and the severe injuries received during delivery, and not immediately or necessarily fatal. The paper concludes with a recital of five facts, bearing more closely on the case referred to by the author. The first was a case of forcible removal of the uterus, occupying three quarters of an hour, and fatal within a few minutes of its completion; the second was a similar case, followed by death in two hours; the third, also of the same kind, terminated fatally in half an hour, the efforts at removal having lasted one hour and a half; the fourth combined rupture of the uterus with that of the intestines, the efforts at removal lasted two hours, and the death happened at the end of another hour; the fifth case was one of inversion of the uterus, with rupture of the vagina and peritoneum; hemorrhage and death in seven hours. From the facts which he has collected, and the consideration he has given to the subject, Dr. Tardieu concludes that death, after the forcible removal of the uterus and a portion of the intestines, is not necessarily immediate, that it is not accompanied by excessive hemorrhage, nor even by complete fainting.

55. *Wound of the Heart—Death after 78 hours.*—The following case is narrated by Dr. Alexander, of Charlestown, U.S.‡

The deceased, whilst engaged in a scuffle, received a blow on his back, which arrested his attention; he turned and pursued the man who struck him, but another man followed him, who, while in the rear, and on the left side of the deceased, was seen to strike him with his left hand, in which was an open knife. The deceased immediately put his hands to his side, and, exclaiming "I am a dead

* *Annales d'Hygiène*, Avril 1846, p. 392.

† Janvier 1846, p. 187.

‡ *American Journal of Medical Sciences*, January 1847.

man," staggered a few steps and fell; there was but little external hemorrhage. He was taken to a neighbouring house, and died 78 hours after the infliction of the wound. On inspecting the body after death, two wounds were found upon the left side of the chest, one below the clavicle and over the second rib, which had arrested the instrument; this wound was seven-eighths of an inch long, but of trivial importance. The other wound was over the fifth rib, three-fourths of an inch from its junction with its cartilage; it was surrounded by a livid circle of considerable extent. Upon examining it with a probe, an indentation of the rib was perceptible, and upon opening the chest, the left cavity was found filled with bloody serum. There were also signs of acute inflammation of the pleura. The rib itself was severed, and the intercostal artery divided. This wound was found also to have entered the chest and pericardium obliquely, and to have passed entirely through the heart, about half an inch from its apex, opening and traversing the left ventricle, and wounding the diaphragm. There were a few ounces of bloody serum in the pericardium.

The instrument used in inflicting the wound was the large blade of a coarse pocket-knife, not more than two inches and a half in length.

56. *Death from a Wound in the Neck and Abdomen, and two Wounds at the wrist, dividing the radial and ulnar arteries.*—The following is narrated with many other interesting cases in the "Revue retrospective des Cas judiciaires dans l'Arrondissement de Metz."*

The body of a man, from 25 to 30 years of age, was found dead in a wood. The state of the body was such as to lead the magistrate of the department to order MM. Isnard and Dieu to make a careful examination. From the condition of the body they concluded that the man had been dead from 10 to 12 days. They found on the anterior part of the neck a transverse wound, situated beneath the thyroid cartilage, the edges being smooth, as though made with a sharp instrument. The angles of the wound indicated that it had been made from left to right. It divided the skin, superficial fascia, cervical fascia, and some of the fibres of the sternomastoid muscle, but the jugular veins and carotid arteries on both sides were untouched. On the forearm of both sides, above the radio-carpal articulation, was seen a wound, which divided many of the flexor tendons, as well as the radial and ulnar arteries and veins; the wound of the right forearm was more contused, and the arteries on that side more completely divided than on the left. A superficial wound was also found on the abdomen, between the umbilicus and pubes, along the median line.

The clothes found on the person of the deceased did not present any cuts corresponding to any of the wounds, but many spots of blood were seen on them. A large knife, the blade of which was covered with spots of rust and blood, was found covered up in a pocket-handkerchief, and placed in one of his trousers pockets.

Were these wounds the cause of death? This question was answered in the affirmative, as the wounds of the radial and ulnar arteries were sufficient to cause death. Were they the result of suicide? From a careful examination of the case, this question was also answered by the examiners in the affirmative. The wound was from left to right, and was made apparently at one time or cut, circumstances almost invariably constant in cases of suicide (?). But had the deceased inflicted the wounds on his own forearms? Had there been but one wound, this would have been easily answered, but it was difficult to account for both. Nevertheless, as the flexor tendons were unequally divided on the two sides, it was thought possible that, after having inflicted the greater wound on the left arm, he then repeated the wound on the other arm; which view was borne out by the fact that there was more contusion on the right forearm than on the left, as if that wound had been inflicted by a weaker and more tremulous hand. The order of the wounds would then seem to be as follows; first, he made the wound on his neck; that failing to kill him, he inflicted the wound in his abdomen; and finally, the wounds in his arms, in the order mentioned.

57. *Can a Blow on the Head by the Fist cause Death?*—Dr. Wharrie has published† a few cases illustrative of the fact that fatal results may follow severe blows on

* Gazette Médicale de Paris, No. 1, Janvier 1848.

† Med. Gaz. July 30, 1847.

the head by the fist. In the greater number of cases of this kind, it will be found that death has resulted not from fracture or depression of the cranium, but from the rupture of some vessel within the skull, and the consequent effusion of blood on the brain. It should also be borne in mind, that the blow is often complicated by a fall, which may be the immediate cause of mischief, by producing fracture of the cranium. The following cases are related by Dr. Wharrie:

CASE I. Two carters quarrelled, and one struck the other a blow with his fist behind the ear, after which the latter fell down and expired directly. The body was inspected 24 hours after death, and the only mark of violence seen externally was a small scratch behind the left ear, from which a little blood had exuded.—Upon removing the skullcap, there was a considerable extravasation of blood, extending over the surface of the brain, and entering between the convolutions. A small quantity was observed also in the ventricles, and at the base of the brain. The prisoner was tried for culpable homicide, to which he pleaded guilty, and was sentenced to three months' imprisonment.

CASE II. A collier, when off work, quarrelled with a stranger, who was passing; blows ensued, one of which knocked him down, and he was carried home dead. Upon examining the body, Dr. Wharrie found the skin slightly scratched on the right cheek-bone, the nose, the tip of the right shoulder, and over the left collar-bone: there was also a very slight wound on the scalp, over the left ear. On opening the cranium, all the vessels were found turgid, and in each lateral ventricle was a quantity of effused blood; and extravasation had also taken place at the base of the brain, from rupture of the lateral sinus; the rest of the body was healthy.

CASE III. A person, returning home at about ten o'clock at night with his wife and another female, was met in the street by a drunken man, who being insolent, was immediately knocked down by a blow with the fist over the nose. Dr. Wharrie was sent for, and found the man alive, but supported in a sitting posture, with his nose bleeding. There was also a small bruise over the occiput, and the man was faint and insensible, which state was in part attributed to his drunkenness.—He was taken home in a carriage, and died within 24 hours after the receipt of the injury.

At the post-mortem, a small contused wound was found extending about half an inch down the centre of the nose, but the nasal bones were uninjured; the skin round the eyes was discoloured, and the nostrils stained with blood. Towards the left side of the occiput, a small contused wound was discovered, and beneath the scalp, at this part, there was a quantity of extravasated blood. There was a fissure of the occipital bone (corresponding to the extravasation beneath the scalp) which extended four inches upwards from near the base of the skull, and was crossed about the middle by another, running towards the left temporal bone, with a small fissure lower down, nearer the foramen magnum, but there was no depression. At the site of these injuries, beneath the dura mater, there was an ounce of extravasated blood, as well as also on the right hemisphere (especially opposite the temple and ear), where the quantity was much larger. The opinion given in this case was, that the deceased had received a blow on the nose, which occasioned a severe fall on the back of the head, causing fracture of the occipital bone, and extravasation beneath.

The slight character of the external marks in all these cases, especially in the first two, is worthy of note. In cases of this kind, the medical witness should not forget the possibility of an internal fracture from violence applied externally.

58. *Attempt to Murder by pouring Melted Lead into the Ear.*—A case, interesting for the experiments to which it gave rise, is narrated in the "*Annales d'Hygiène*,"* where this novel method of murder was attempted.

The mother of an idiot poured into his ear some melted lead while he was asleep. The patient recovered; but the mother was put upon her trial, during which the following medico-legal questions were asked of the medical witnesses: Can melted tin or lead, poured into the ear, cause death? if so, why has it failed to do so in the present case? The following answers were made from experiments instituted on the dead body.

* Octobre, 1847.

Tin, heated only to the fusion point, does not destroy the membrana tympani; but heated to a higher degree, the membrane is completely destroyed, and the metal enters the mastoid cells, and the bony canals which open at the base of the cranium. Hence the medical witnesses concluded that melted metal, heated to a high temperature, by entering the cranium, would cause death sooner or later. The reason why death did not result in the present case might, however, be due to the low temperature of the metal, the presence of cerumen, or to the struggles of the patient.

M. Boys de Loury, however, has repeated these experiments, but with different results. He ascertained that, in the dead body, hot fluid metal did not readily enter the ear at all, because of the resistance offered by the air in the cavity of the meatus; and that, when it was made so to enter, on no occasion did it enter the mastoid cells, or reach the dura mater; and that, though it might cause severe pain, it was not likely to cause death.

59. *Method of Recognising Spots of Blood on the Clothes.*—A new method, proposed by M. Piria,* depends on the property that fibrin possesses, of attaching itself to the texture of the clothes, and on the action of sulphuric acid on articles made of hemp or linen. The suspected texture is to be plunged into concentrated sulphuric acid, which dissolves out all the vegetable tissue, and leaves the fibrin forming a network, in which may be distinguished the impressions made by the texture on which the blood was fixed.

§ IX.—Death by Starvation.

60. The post-mortem appearances in two cases of death from this cause, will be found narrated in "The Dublin Medical Press," March 17, 1847. The subjects were a man and woman who had died suddenly. The features of the female were contracted, the nose prominent, and the cheeks drawn in. The body was emaciated in every part; the spaces between the metacarpal bones were hollowed out, and all the internal organs completely anæmic. The fat normally present in the abdominal parietes was absent. The rugæ of the stomach were well developed, and that organ, as well as the whole of the intestinal canal, completely empty. The gall-bladder, as usual, was full of bile, and there was some ulceration of the intestinal glands at the lower part of the ileum. Both lungs were anæmic and emphysematous, and the left ventricle contained half an ounce of thin fluid blood.

The body of the male presented similar appearances. In both cases, the bladder was empty.

§ X.—Spontaneous Human Combustion.

61. The "Gazette Médicale"† quotes from the "Union Médicale" the following case of alleged spontaneous combustion. On the morning of the 6th of January, 1847, the body of a man named Ch—— was found on fire in bed. A dense smoke filled the room. One who was present affirmed that he saw on the body of the deceased, a small, lambent, whitish flame. All the bedclothes and clothes of the deceased were almost entirely destroyed. The bedstead was only partly burnt; there were no ashes, and very little vegetable charcoal, but some portions of animal charcoal having evidently belonged to the articulations. The other materials surrounding the body were scorched. It is said that M. C—— carried in his waistcoat pocket some chemical matches, and in the evening he had, as usual, placed at his feet a heated brick, which, before being wrapped in linen, had been slowly cooled by water thrown over it twice. He went to his room between six and seven o'clock in the evening. Two hours later, his son and daughter-in-law, passing his door, perceived nothing unusual; and it was not till the next morning, that his grandson found him in the state which we have described. He was 71 years of age, and was neither very fat, nor given to drunkenness. The weather had been very cold for some time, but there were no signs of an excess of atmospheric electricity. The body was found in its usual position during sleep.

* Journal de Chimie Médicale, Mars, 1848.

† 4 Septembre, 1847.

His son and daughter were suspected of having first murdered him, and then burnt the body, in order to conceal all traces of the crime. Dr. Masson, who was ordered by the authorities to make the necessary examination, had the body exhumed. The coffin was found half filled. The body was folded in a white shroud. A cravat, nearly destroyed by the fire, and a fragment of a shirt collar, remained round the neck. The hands, burnt to a cinder, were attached to the forearm merely by some carbonized tendons, which gave way at the least touch. Lastly, the thighs were so completely separated, that, had it not been for fragments of animal charcoal, the separation might have been attributed to a knife.

From the examination of these facts, it was concluded that, as it was impossible to attribute the phenomena to the action of the combustibles with which the body had been in contact, they must be ascribed to a cause inherent in the individual, put in action, perhaps, by the heat of the brick applied to the feet, but which must have found a fuel in the tissues which it destroyed; that, in a word, it must be classed among cases of spontaneous combustion. This opinion of M. Masson being fully confirmed by that of M. Orfila, the accused were acquitted.

§ XI.—*Doubtful Sex.*

62. In the American journals will be found narrated two cases of doubtful sex, one by Dr. Barry, the other by Dr. Harris. From the general external characters observed in Dr. Barry's case, he was led to consider the party as belonging to the male sex. This opinion was founded on the presence of a penis, a scrotum, and one testicle, with a spermatic cord; but in the perineum, at the root of the corpora cavernosa, was an opening large enough to admit an ordinary-sized catheter. At a subsequent examination, it was found that the party menstruated regularly through this opening, which was found to lead to a passage similar to a vagina, and through this opening the urine also was voided. The mammae and nipples were well developed, and the character and propensities evinced were feminine. The examination took place in order to ascertain whether the party had a right to vote as a male citizen or not. For more particular details the reader is referred to the paper itself.

Dr. Harris's case resembled the foregoing in the preponderance of the female characters, and in the regular occurrence of menstruation, but it would appear that the discharge took place through the urethra of a stunted penis, "naturally formed in every respect." An imperforate fissure occupied the position of the vagina.*

§ XII.—*Medico-legal Trials and Inquests.*

63. *Death from Fever, simulating Death from Opium.*—An inquest was held August 8th, 1848, at Putney, on the body of Sophia Dallett, at the urgent request of Dr. Cormack, her medical attendant. The particulars, a full account of which the reader will find in the journals of the time, are succinctly as follows. She was taken ill with vomiting and shivering on the 4th of July, for which she took some antibilious pills, and after that, medicine supplied by Mr. Farmer, of Putney. On the 6th, Dr. Cormack saw her, and found her suffering under symptoms resembling those of fever, attended with violent vomiting and diarrhoea, and complete depression, with contracted pupils. Sedative medicine, and the creosote mixture, were then prescribed; but, on his return, the abdominal pain, which had been present from the first, had considerably increased, and the diarrhoea and vomiting still continued; for these he applied a stimulating and sedative liniment, and prescribed wine. The symptoms, under this treatment, improved for a short time, but were soon succeeded by a state of complete prostration and drowsiness, similar to that induced by opium. Thinking it possible that the symptoms, then present, might have been caused by the opium given (but which had been prescribed in small and guarded doses), he endeavoured to rouse her by mustard cataplasms applied to the feet, &c. Two medical men, who were called in at this time, agreed in the

* American Journal of Medical Sciences, July 1847. Dr. Barry's case was originally reported in the New York Journal of Medicine, Jan. 1842.

judiciousness of the treatment adopted, and endeavoured to excite vomiting by the exhibition of the sulphate of zinc. In spite of all remedies, she died 24 hours after Dr. Cormack was called in. After death, evidence of great congestion of the brain and its membrane was found, as also of well-marked inflammation of the small intestines. Peyer's and Brunner's glands were much enlarged, and the mucons membrane in the lower part of the small intestines thickened, and in parts ulcerated. The jury exonerated Dr. Cormack from any charge of having adopted improper treatment.

64. *Culpable Homicide*.—Thomas Gibson was tried on the Glasgow circuit, for culpable homicide, in having caused the death of Charles Forrest, by forcibly throwing him on the ground, and twisting and tightening his neckcloth so that he died from the effects of the injury so received.

From the evidence it appeared, that on the night of the occurrence, Forrest was gossiping at the house of a neighbour, when, hearing a loud knocking at the next house, he ran out, and he and his neighbour's daughter pursued a man who was seen running away. Upon coming up with him, Forrest insisted upon seeing his face, when Gibson, the stranger, seized the deceased by the neckcloth, and threw him against a pile of straw, and appeared to be choking him. Others arriving at this time, endeavoured to take Gibson off, but without success, and at last both he and Forrest fell down together. Upon Forrest rising, he complained of feeling sick, and looked very pale, and after a time became drowsy, and died the following day. From the medical evidence it appeared that there was congestion of the lungs and brain, with extravasation of blood on both hemispheres. Between the hemispheres there were three osseous deposits. There was no alcoholic smell in the stomach. Dr. Seller, of Edinburgh, considered death as due solely to the violence, as also did Dr. MacLagan, while Dr. King, of Glasgow, ascribed the death to apoplexy, and would not have anticipated a fatal result had the membranes been in a healthy state. The jury found the prisoner guilty of culpable homicide, but recommended him to mercy.*

65. *Charge of Poisoning by Arsenic—Acquittal*.—Elizabeth Johnson was indicted for poisoning her husband by arsenic. It was given in evidence that as soon as he was first taken ill, she pronounced that he would not recover, and told all her neighbours so. Although the surgeon said at one of his visits that he was better, she said that he would die the same night—a prophecy which was literally fulfilled. She, moreover, had bought some arsenic the day before her husband was taken ill, though she denied that she even knew what arsenic was. The deceased died with all the symptoms of irritant poisoning. There were found signs of inflammation in the stomach and œsophagus, but the reactions by Reinsch's test were not satisfactory at the first examination, which took place the day after the death. Three months afterwards the body was exhumed, and the chemical examination readily detected arsenic. The prisoner was acquitted, owing to the conflicting evidence of the medical witnesses.†

66. *Death from Sulphuretted Hydrogen*.—An inquest was held before Mr. Bedford, August 7th, 1847, to inquire into the death of George Goss, who was supposed to have died from the inhalation of this gas, the extrication of which had been due to the state of drainage in the neighbourhood of Long Acre. From the evidence it appeared that the deceased, a strong healthy man, was seen to go into a water-closet on the 6th instant, and that about a quarter of an hour afterwards a struggling was heard, and the man was found dead. His features were ghastly, and there was a "tremendous" stench in the yard which had not been noticed before. From other portions of the evidence it appeared, that the drains of the court where he lived were nearly choked up, and that upon the morning of the catastrophe a quantity of impure sulphuric acid had been thrown into the sewer, which gave rise to the immediate extrication of sulphuretted hydrogen. The medical evidence attributed the death solely to this cause, and a verdict was recorded accordingly.‡

* Monthly Journal of Med. Science, June 1847.

† Ibid. Aug. 1847; from "Times" newspaper.

‡ Pharm. Times, August 21, 1847.

Supplementary Reports.

I. A REPORT ON THE RECENT PROGRESS OF PSYCHOLOGICAL MEDICINE.

BY C. LOCKHART ROBERTSON, M.D.,

Medical Staff, attached to the Royal Military Lunatic Asylum at Yarmouth, &c. &c.

In the following report our aim has been to present a view of the recent improvements and suggestions made in the department of Psychological Medicine.

This being the first Report on this department of medicine which has been made in the "Half-yearly Abstract," we have thought it advisable to devote a section (§ I) to the consideration of the forms of insanity, the which have been, and still are, variously classified. The simplest of the recent divisions of the subject is that contained in the Report of the Metropolitan Commissioners in Lunacy (1844), and is, therefore, the one which we have adopted throughout this Report.

Otherwise, the only rule we have followed has been to sift all the recent writings on the subject, and rejecting false theories and common-place remarks, to present our readers with a summary of the recent adaptations of scientific research to the cure and alleviation of mental disease.

We would take this opportunity of drawing their attention to a recently established periodical. "The Journal of Psychological Medicine and Mental Pathology,"* "a journal devoted exclusively to the consideration of the human mind in its abnormal state." We have received the first two numbers, which, in our opinion, reflect much credit on Dr. Winslow (the editor) and his coadjutors. The individual articles are, generally speaking, of considerable value in a scientific point of view, and have been written with much care.

We trust, however, in future numbers, to see more regard had to the recent writings on this department of medicine contained in the contemporaries of the "Psychological Journal," viz., the American, French, and German journals of insanity. But as the Editor, with justice, observes in the second number, "our readers will undoubtedly make every allowance for the deficiencies perceptible in the early numbers of the 'Journal of Psychological Medicine;' the difficulties inseparably associated with the first attempt made in this country to establish a periodical of this kind have been great."

§ 1.—Forms of Insanity.

In the Report of the Metropolitan Commissioners in Lunacy, the various forms of mental disease are thus ably distinguished into—

- I. Mania; which is divided into—
 - a. Acute mania, or raving madness.
 - b. Ordinary mania, or chronic madness of a less acute form.
 - c. Periodical or remittent mania, with comparatively lucid intervals.
- II. Dementia, or decay and obliteration of the intellectual faculties.
- III. Melancholia,
- IV. Monomania,
- V. Moral Insanity,

} These three forms are sometimes comprehended under the term partial insanity.

* No. 1, January 1848; to be continued quarterly.

- vi. Congenital Idiocy.
- vii. Congenital Imbecility.
- viii. General Paralysis of the Insane.
- ix. Epilepsy.

A description of the disorders to which these terms are appropriated is likewise given, of which the following is the substance:

1. *Mania*.—This term is used to designate a particular kind of madness, as affecting all the operations of the mind; hence its synonyme, total or general insanity. Maniacs are incapable of carrying on, in a calm and collected manner, any process of thought; their disorder for the most part betraying itself whenever they attempt to enter into conversation. It likewise affects their conduct, gesture, and behaviour, which are absurd and irrational; their actions being characterized by great restlessness, appearing to be the result of momentary impulses, and without obvious motives. Mania is likewise accompanied by hurry and confusion of ideas, and by more or less excitement and vehemence of feeling and expression. When these last symptoms exist in an excessive degree, the disorder is termed—

Acute mania, which is the first stage of the disease, and often tends to a fatal termination, through the exhaustion occasioned by perpetual agitation and want of rest. It is also generally attended with considerable disturbance of the vital functions. The symptoms gradually abate, and the disease passes into—

Chronic mania, which is attended with less excitement of the passions, less rapidity of utterance, and less violence of action. In this stage the disorder of the mind is not always immediately perceptible; but it soon becomes apparent that the patient is incapable of continued rational conversation or self-control, and that his acts are the result of momentary caprice, and not governed by rational motives. A great proportion of maniacs labour under illusions or hallucinations, or false impressions as to matters of fact; but in these illusive notions there is no consistence or permanence. Patients labouring under this chronic form of mania are often tolerably tranquil and harmless, and capable of being employed in agricultural and other pursuits.

Intermittent mania (the third subdivision of mania) is a variety the existence of which has been much disputed, some medical writers of note denying the existence of lucid intervals altogether. As the Commissioners justly observe, the fact appears to be, that there are patients subject to occasional paroxysms of raving madness, but who have intervals of comparative tranquillity and rest. It generally happens, however, that after the alternations of raving fits and periods of tranquillity have continued for some time, the intervals become less clearly marked, and the mind is found to be weakened, the temper more irritable, and both the feelings and the intellectual faculties more and more disordered.

2. *Dementia*.—Chronic and protracted mania is frequently the prelude to a decay and final obliteration of the mental faculties, which is termed dementia. In some few instances (generally the result of causes of a depressing nature, as sudden grief, &c.) dementia is the primary form of mental derangement. In those instances in which dementia is the sequel of protracted mania, it is not easy to determine the point at which mania ends and dementia begins. It differs from idiocy, in which the powers of the mind have never been developed, while in dementia they have been lost.

These two forms, mania and dementia, are the prevailing varieties of insanity in most large asylums, constituting, on the average, two-thirds of the cases.

3. *Melancholia*.—Of this disease there are several degrees and varieties. Some patients display merely lowness of spirits, with a distaste for the pleasures of life, and a total indifference to its concerns. These have no disorder of the understanding, or defect in the intellectual powers; and, however closely examined, manifest no delusion or hallucination.

Another class of melancholics derive their grief and despondency from some unreal misfortune which they imagine to have befallen them. Many are convinced that they have committed unpardonable sins, and are doomed to eternal perdition. Others believe themselves to be accused and suspected of some heinous crime, of which they are destined to undergo the punishment; and of this they live in continual dread, &c. &c.

All cases of melancholia have more or less a tendency to suicide.

4. *Monomania*.—This term is given to cases in which the intellectual faculties are unimpaired, except with relation to some particular topic. A frequent illusion of monomaniacs is that they hold conversation with supernatural beings.

5. *Moral Insanity*.—This term is used to designate a form of mental disease in which the affections, sentiments, and habits, and, generally speaking, the moral feelings of the mind, rather than the intellectual faculties, are in an unsound and disordered state. Cases of this description were formerly looked upon as unaccountable phenomena. They are, however, now regarded as a distinct form of mental disorder in nearly all the public asylums. They are characterized by a total want of self-control, with an inordinate propensity to excesses of various kinds.

6. *Congenital Idiocy and Congenital Imbecility*.—Congenital idiots are persons whose intellectual faculties have never been developed. Congenital imbecility is the result of some original defect which renders the mind feeble in all its operations, though not altogether incapable of exercising them within a limited sphere.

7. *General Paralysis of the Insane*.—This is a species of monomania in which the individual affected fancies himself possessed of vast riches and power, and which is always attended with a general paralysis, distinguished at its onset by an impediment in the articulation, and gradually progressing to total obliteration of the power of locomotion, with inability to attend to the calls of nature, &c. This specific form of insanity was first pointed out by French physicians.

8. *Epilepsy*.—This disease exists complicated in various ways with defects or disorders of the mind; with imbecility; with dementia; with mania; or it may coexist with perfect soundness of mind.

§ II.—On the Present State of Lunacy, and of Lunatic Asylums.

In an official document lately presented to both Houses of Parliament, by command of her Majesty, entitled "Further Report of the Commissioners in Lunacy to the Lord Chancellor," much valuable information regarding the condition, &c., of the insane, is to be found. Indeed, the whole Report reflects the highest credit on the present Lunacy Commission. We proceed to make some extracts from the second part of that Report on the present state of lunacy and of lunatic asylums.

9. *Number of Insane Persons in England and Wales*.—"There are in England and Wales alone, according even to the returns, more than 23,000 persons of unsound mind. These returns, however, are notoriously imperfect, falling far short of the actual amount; and they do not, moreover, embrace the whole of a numerous class who are termed imbecile persons, having been so from birth, or become so from senility."

10. *Proportion of Higher and Middle Classes, and of Paupers*.—"Of the 23,000 persons before referred to, nearly 5000 belong to the higher and middle classes of society; and about 18,800 are paupers." About 15,000 of these are confined in the various hospitals, county asylums, and licensed houses; the others being in poor-law unions, or in private houses.

11. *Aggregate Number of Insane, and Persons engaged in their care*.—"The aggregate number of the insane and imbecile, together with their various committees, visitors, medical officers, attendants, and servants, cannot be fairly estimated at less than 30,000 persons."*

12. *Estimate of Annual Amount expended in the Maintenance, &c., of Lunatics*.—"On a rough estimate, it may be stated that the aggregate amount of money expended every year for the maintenance of lunatic patients, or administered on

* According to a late report on the District Local and Private Lunatic Asylums in Ireland (p. 72), the total number of insane persons in that country (including wandering idiots and epileptics), amounts to 12,397; and the number of lunatic poor in Scotland, according to a late return, is 3413. Add to these the private patients in each country, and the various medical and other officers, attendants, &c., and the result will be that, *exclusive of the families of lunatics*, the total number in Great Britain and Ireland, who are directly or indirectly involved in the subject of lunacy, will be little short of *fifty thousand persons*.

their behalf, exceeds £750,000. To this amount must be added the expense of maintaining many families cast upon the parish by the parent's insanity, the expense of supporting many persons termed imbecile, and the interest of the large sums invested in the public lunatic establishments (some of which are paying interest on borrowed money)—which, together, will raise the expenditure to little less than one million annually."

The question of lunacy, therefore, is manifestly one of considerable extent, and, independently of its bearing upon the general liberty and welfare of the subject, of great public importance.

13. *Control and Jurisdiction exercised over the Question.*—"The expense incurred on behalf of pauper lunatics is intrusted to the justices of counties and parish authorities; the due application of the private property of the insane is subject to the especial jurisdiction of the Lord Chancellor.

"On the other hand, to ascertain that the patient is duly confined; that he has medical aid, fit attendance, and proper comforts during his confinement; that he is provided with employment and amusement; that his food is good, and his place of residence healthy, clean, well ventilated, and in good order; that he himself is not ill-treated, neglected, or improperly restrained; and, finally, that he is liberated when fit for liberation—are amongst the duties imposed upon the various visitors, and, concurrently with them, upon her Majesty's Commissioners in Lunacy. These various duties are regulated by two Acts of Parliament (8 & 9 Vict., c. 100; and 8 & 9 Vict., c. 126); the one being for regulating the care and treatment of lunatics generally, and the other being for the provision and regulation of lunatic asylums for counties and boroughs, and the maintenance and care of pauper lunatics therein."

14. *Former Condition of Asylums for the Insane.*—"The enormities existing in asylums, public as well as private, previously to the parliamentary investigations of 1815, 1816, and 1827, can scarcely be exaggerated. They comprise almost every species of cruelty, insult, and neglect, to which helpless and friendless people can be exposed when abandoned to the charge of ignorant, idle, and ferocious keepers, acting without conscience or control."

Although, however, these investigations have been productive of good, the metropolitan licensed houses were found, in 1828, by the commissioners appointed under Act 9 Geo. IV, c. 41, to have been defective in almost every important particular. The apartments of the pauper patients were dirty, ill-ventilated, and altogether wanting in comfort. Personal restraint prevailed to a great and inexcusable degree. The number of attendants was, in almost every instance, inadequate to the proper care and control of the patients, &c. &c.

Even in 1844, when, by the Act 5 & 6 Vict., c. 87, the metropolitan commissioners were enabled to inspect the condition of the various public and private asylums throughout England and Wales, they reveal, in their published Report,* a state of things existing in the private licensed houses, both in the metropolis and in the provinces, over which humanity would fain draw a veil; while the condition of several public institutions was but slightly better, that at Haverfordwest, belonging to the county of Pembroke, as bad.

Taste and want of space alike induce us to refer those interested in such chronicles of cruelty to the official Report in question.

15. *Present Condition of Asylums for the Insane.*—"Important benefits and comforts of various sorts have been obtained for the insane by the present system of inspection and supervision; and the amount of improvement which has of late years taken place in lunatic establishments have, her Majesty's Commissioners report, been great and general." "The dwellings for the insane are no longer the gloomy prisons in which they were formerly confined. Cleanliness, warmth, and ventilation are insisted upon; better diet, clothing, and bedding have been provided; personal restraint is diminished, and even where still employed, its severity is greatly mitigated, and its application strictly watched; the health and mental condition of the lunatic are more carefully considered; occupation and amusement are more generally afforded to him; and in all respects better treatment is

* Report of the Metropolitan Commissioners in Lunacy to the Lord Chancellor. Presented to both Houses of Parliament by command of Her Majesty. London, 1844.

secured; whilst an opportunity is periodically given to him of representing any hardship to which he may have been subjected—an advantage which, as is found by experience, many patients fully appreciate.”

Such a picture, and drawn, too, by those officially intrusted with the supervision of such establishments, forms a pleasing contrast to the view we above had of the former conditions of asylums for the insane.

§ III.—Statistics.

16. *Results of Treatment in Hospitals for the Insane.*—The statistics of insanity have recently been carefully and ably investigated by Dr. Thurnam.* “The results of treatment,” he says, “which it is the principal object of statistical reports of hospitals for the insane to enable us to compare, are two in number—the proportion of recoveries per cent. of the admissions, and the mean annual mortality per cent. resident.† With the important proviso, indeed, of circumstances being otherwise similar, the efficacy and success of these institutions may be regarded as in a direct ratio with the proportion of recoveries, and in an inverse one with the rate of mortality.” As, however, in order to ascertain the precise proportion of recoveries in any particular asylum, the numbers “admitted” must be the same as those “discharged” when the period in question is completed—a method of observation which evidently cannot be attained—it follows that although the plan of calculating the recoveries upon the admissions, affords a near approximation to the truth, “yet it does not exhibit with precise accuracy the results of treatment in any hospital for the insane.” On the other hand, the rate of mortality, when calculated on the average population of an asylum, not being able to any such objection, “constitutes, for this and other reasons, our most important statistical means for estimating the success in treatment and the character of hospitals for the insane.”‡

“The indiscriminating comparison of the aggregate results, however,” as Dr. Thurnam well points out, “is nearly always very fallacious,” yet it is particularly so when these apply to short periods, and especially when such periods are the first in the history of the institutions to which they refer. Indeed, upon a particular investigation of the statistics of a large number of hospitals for the insane, it appears that the proportion of the recoveries, in nearly every instance, has gone on materially increasing for a considerable period, often amounting to 30 or even 40 years from their first establishment; while, on the other hand, the mortality is generally more favourable during the early history of an asylum, continuing during the first 20 or even 30 years of its operations, to undergo a material increase which often amounts to 50 or 100 per cent. upon the mortality of the first 5 years. *A period therefore of the lowest, from 20 to 30 years, must elapse before we are authorised in concluding that the experience of an hospital for the insane at all fairly represents the average results of treatment which either have been, or will be, obtained in it.*

In the following table, which is compiled from two furnished by Dr. Thurnam (Op. cit. pp. 20, 22), we have exhibited the comparative results of treatment in several of the principal hospitals for the insane at 20 years respectively from the

* Observations and Essays on the Statistics of Insanity. Simpkin, Marshall and Co., London.

† Our limits forbid us following Dr. Thurnam in his consideration of the important sources of error connected with the terms used to designate the results of treatment, and with the methods of calculating the numerical value of such results. We here assume that, in asylums for the insane, the proportion of recoveries ought to be calculated on the admissions, the rate of mortality on the mean numbers resident, referring those of our readers engaged in such researches to the first four sections of the first chapter of Dr. Thurnam’s “Statistics,” and which are well worthy of a careful perusal.

‡ Although “the only strictly accurate and unequivocal test of the sanitary state of any population, as established by its mortality, is obtained by a comparison of the deaths at each age, with the average numbers living at the same ages;” yet, as regards asylums for the insane, “it is probable that the difference in the numbers living at different ages, will rarely be so great as to render the inferences, from a comparison of the mean annual mortality at all ages, erroneous in any very material degree.”—(Dr. Thurnam, op. cit. p. 16.)

dates of their establishment, the proportion of recoveries being calculated on the admissions, the mortality on the mean population.

Name of Asylum.	Number of years from date of establishment.	Proportion of recoveries per cent. of admissions.	Mean Annual Mortality.	
			At the end of twenty years.	During the ten years 1835-45.*
Lancaster . . .	20 years	38.56	18.25	14.94
Nottingham . . .	20 years	41.87	7.37	8.28
York, West Riding . . .	20 years	43.56	16.57	14.54
Lincoln . . .	20 years	39.7	13.44	13.33
Retreat, York . . .	20 years	46.01	3.71	5.24
Dundee . . .	20 years	44.21	5.84	6.05
Glasgow . . .	20 years	42.72	8.31	10.02
McLean Asylum } Boston, U.S. }	20 years	41.93	11.41	not given.

17. *Circumstances in the Character of the Cases admitted influencing the Results of Treatment.*—Admitted in any given case that the proportion of the recoveries and the rate of mortality be correctly calculated, there still can be no doubt, as Dr. Thurnam observes, "that the considerable discrepancy which is so often to be observed in the aggregate results of treatment in different asylums as frequently, or perhaps still more often, depends upon a difference in the previous circumstances and character of the cases admitted, than upon any differences there may be in the various influences and methods of treatment to which they have been subjected in the institutions themselves, and thus, in order to any fair comparison of the recoveries and mortality, we require considerable information as to these several particulars."

The following are the more important of these circumstances, though in the arrangement of these we deviate from Dr. Thurnam's method.

a. *Duration of the disorder.*—Of all the circumstances which affect the comparison of the recoveries and mortality of the insane, the stage or duration of the disorder is, practically speaking, the most important. Dr. Thurnam states that, at the Retreat, the probability of recovery in cases brought under care within three months of the first attack, has been found to be as 4 to 1, whilst in cases not admitted until more than twelve months after the attack, the probability of recovery is less than as 1 to 4.

The duration of the disorder likewise exerts a material influence upon the mortality, as well as upon the proportion of recoveries. This influence is, however, of an opposite character, the rate of the mortality being greater in the recent and less in the chronic cases. Thus, during 48 years at the Retreat, the mean annual mortality has been 7.3 per cent. in cases admitted within three months of the first attack, and only 4.57 per cent. in those admitted of more than twelve months' standing.

The following table exhibits the proportion of recoveries per cent. on the admissions, and the mean annual mortality in cases of recent and longer duration when admitted at the Retreat, 1796-1844.†

* In this column we have given the mean annual mortality for the ten years 1835-45, which Dr. Conolly, in the Appendix to his work on the Construction, &c., of Asylums (noticed in § IV.), has adopted, without any qualification, as the standard of his statistical comparison of all public hospitals in Great Britain, both of recent and of longer duration, a method which would lead those unacquainted with the statistics of insanity to draw most unfair conclusions as to the comparative success of many of these institutions.

† Thurnam, p. 56.

Duration of disorder when admitted.	Proportion of recoveries per cent of admissions.			Mean annual mortality per cent. resident.		
	Male.	Female.	Mean.	Male.	Female.	Mean.
First attack, and within three months	79.24	77.19	78.18	8.05	6.76	7.3
First attack above three and within 12 months	46.15	43.75	45.	5.14	4.06	4.37
Cases of 12 months' duration and upwards	14.65	23.38	19.16	5.24	3.98	4.57

b. Sex.—That the probability of recovery is greater in women than in men may now be regarded as established. Dr. Thurnam states, that in the Asylum, at Glasgow, taking the entire period of its operation, the recoveries in women have exceeded those in men by 4 per cent.; at Belfast by 5; at Lancaster by 7; at Armagh by 10; at the Retreat by 20, &c. A still greater difference, in the rate of mortality of the two sexes, is nearly always to be noted. As it is well known, there is an excess of 5 or 6 per cent. in the general mortality of this country on the side of males, but the relative difference is enormously greater in the insane. The excess of the mortality on the side of the males amounted to 72 per cent. at Hanwell; to 57 per cent. at Glasgow; to 56 per cent. at Lancaster; to 34 per cent. at the Retreat, &c.

It is, therefore, obvious that, in institutions receiving a decided preponderance of men, the aggregate results, both as respects the recoveries and the mortality, will, *ceteris paribus*, be less favourable than in such as have an excess of women.

c. Age.—Age exerts a very decided influence, both on the proportion of the recoveries and the mortality of the insane. As will appear from the following table, the probability of recovery is greatest in the young, and undergoes a very regular diminution as age advances.

Ages.	10—20	20—30	30—40	40—50	50—60	60—70	70—80	80—90	All ages.
Proportion of recoveries at the Retreat, 1796—1840	55.5	53.5	50.	47.5	44.8	35.6	20.	25.	47.3
Proportion of recoveries at the Asylum, York, 1814—40	52.8	37.6	28.8	31.4	27.5	22.4	18.2		33.9

On the other hand, the mortality of the insane increases in proportion to the age much more rapidly than is the case in the general population. The following table exhibits the mean annual mortality at different ages.

Ages.	20—30	30—40	40—50	50—60	60—70	70—80	80—90	90—97	All ages.
Mean annual mortality at the Retreat, 1796—1840	3.6	2.8	3.4	4.5	6.3	8.6	22.1	17.5	4.7
Mean annual mortality at the Asylum, York, 1814—40	4.8	6.8	9.4	6.4	6.9	12.1	30.		7.4

d. Rank and Previous Habits.—A very material influence is, doubtless, exerted by the rank in life and other external circumstances of the persons to whom asylums are appropriated, upon the average results of treatment, though in particular perhaps upon the mean annual mortality. Thus Dr. Thurnam states, that the proportion of recoveries at the Retreat, in those connected with the Society of Friends, has been at the rate of about 50 per cent., and the mean mortality only 4.7; whilst at the Wakefield asylum, which may be taken as a fair representation

of an English county asylum receiving paupers only, the recoveries have been 43·6 per cent., the mortality 15·7 per cent. on the population.

These, together with one or two minor points, as the duration of residence, form of disorder, &c., constitute the circumstances in the character and prior condition of the cases brought under treatment, which, as Dr. Thurnam has the merit of showing in his treatise, "may more or less materially influence the proportion of recoveries and the mortality in hospitals for the insane; so that these results may vary materially from the average standard without reflecting any discredit on these institutions. Still there can be no doubt, and it would be a libel on these institutions to assert otherwise, that the management and treatment of the various influences, moral and physical, to which the insane are subjected in hospitals appropriated to their reception, do exert a material influence on the results which are obtained. And although we shall never be able to ascertain the exact numerical value which for good or for evil is to be attached to the observance, neglect or perversion of the various particulars of such treatment in any given institution, we may yet be able to form some general notions on these points, which may approximate to truth, and which may furnish us with useful hints in forming our conclusions."*

18. *Influence of Insanity on the Duration of Life.*—The influence of insanity on the duration of life, is a subject on which authors have long been divided, and the opinion that mental alienation is not necessarily prejudicial to life is not even yet exploded. The researches of Dr. Thurnam, however, prove that insanity does materially shorten the duration of life. Of the total deaths which occurred in the Retreat from 1796–1840, "in those connected with the Society of Friends, less than two-thirds, and in the others not more than one-third of the expectation of life at the time of the attack was on an average realized." For further remarks on this subject, the reader must be referred to the work itself. (Part II., p. 100.)

19. *Causes of Death in the Insane.*—In the subjoined table, Dr. Thurnam draws a comparison of the several classes of diseases proving fatal at the Retreat (near York), with those which proved fatal through the whole of England and Wales, in the year 1838. The results furnished by this table are of great interest.

Causes of Death.†	England and Wales, 1838.	The Retreat, 1796–1840.
1. Epidemic, endemic, and contagious diseases . . .	20.538	8.633
2. Diseases of the nervous system . . .	15.016	19.424
Including <i>convulsions</i> , (chiefly infants) . . .	7.879	
<i>apoplexy</i>	1.703	11.510
<i>paralysis</i>	1.605	1.438
<i>epilepsy</i> . . . . .	.330	4.316
<i>disease of brain</i> . . . . .	.425	2.158
3. Diseases of the respiratory organs . . .	27.484	24.460
Including <i>inflammation of the lungs</i> . . .	5.445	4.346
<i>consumption</i>	17.613	14.388
4. Diseases of the heart, &c.	1.075	6.402
5. " " digestive organs	5.387	14.388
6. " " kidneys, &c. . . . .	.493	.719
7. " " uterus, &c.	1.007	.719
8. " " bones, &c. . . . .	.635	
9. " " skin, &c. . . . .	.126	
10. " " uncertain or variable seat . . .	13.389	13.669
11. Old age	10.781	7.913
12. Death by violence	3.617	3.597
Including <i>suicide</i> . . . . .	.320	3.597

* It is almost superfluous to state that the three tables in the last page are adopted from Dr. Thurnam's treatise on the statistics, &c., chap. i. In a second chapter Dr. Thurnam traces, *seriatim*, the probable influence on the results which the several items of which the treatment of the insane consists may exert. Our limits forbid us entering into this part of the subject.

† This table is read thus: of every 100 deaths in England and Wales during the year 1838, 20.538 died of epidemic, endemic, and contagious diseases, while of every 100 deaths at the Retreat, from 1796–1840, only 8.638 died of the same diseases, &c. &c.

20. *Liability to Relapse or Recurrence.*—This is a question often put to the medical practitioner, and one which statistics alone will enable him correctly to answer. Dr. Thurnam concludes his calculations and inferences on this subject (which are of much interest and value) with this remark: "The liability to a relapse or recurrence of insanity after a recovery from a first attack, all things considered, can scarcely be estimated as at all less than 50 per cent., or as one in every two cases discharged recovered. . . . In round numbers (according to the experience of the Retreat), of ten persons attacked by insanity, five recover, and five die sooner or later during the attack. Of the five who recover, not more than two remain well during the rest of their lives; the other three sustain subsequent attacks, during which at least two of them die.* But, although the picture is thus an unfavourable one, it is very far from justifying the popular prejudice, that insanity is virtually an incurable disease; and the view which it presents is much modified by the long intervals which often occur between the attacks, during which intervals of mental health (in many cases of from 10 to 20 years' duration) the individual has lived in all the enjoyments of social life."

21. *Relative Liability of the Sexes to Insanity.*—This question has been minutely analysed by Dr. Thurnam. "The proportion of men," he states, "admitted into asylums for the insane is, on the average, 13.7 per cent. higher than that of women, and as we know that the proportion of men in the general population, particularly at those ages when insanity most usually occurs, is decidedly less than that of women, we can have no grounds for doubting that the male sex is actually more liable to disorders of the mind than the female."

22. *Liability to Insanity at different Ages.*—"From 30 to 40 years the liability to insanity is usually the greatest, and it decreases with each succeeding decennial period; the decrease being gradual from 30 to 60 years, and after that much more rapid."†

§ IV.—On the Construction and Government of Lunatic Asylums.

At a period like the present, when nearly every county in England is building, about to build, or enlarging the asylum for their insane poor, and as after the 8th of August, 1848, it becomes obligatory by Act of Parliament (8 and 9 Vict., c. 126) on "all counties and boroughs, having no asylum, to erect or provide an asylum for the pauper lunatics of such county or borough;" the principles on which these buildings should be constructed, as likewise the form of their government, become matters of great moment. A recent publication by Dr. Conolly on the subject,‡ must be regarded by all interested in the question as a most valuable addition to our knowledge on these matters. We shall therefore endeavour to present our readers with a summary of his views and suggestions.

23. *Advantages of a County Asylum for the Insane Poor.*—"The insane poor are of necessity exposed in both such places (viz., in private licensed houses, or small asylums, or lunatic wards attached to workhouses), to innumerable disadvantages, only to be avoided in larger public asylums. Their diet, their clothing, their lodging are all generally of the most wretched description: the means of occu-

* According to the experience of the Siegburg Asylum for 20 years (1825-45), of 125 cases which, during that period, were discharged cured, and who have subsequently died, 68 continued of sound mind during the remainder of their lives; 57 died insane; or, in round numbers, of every 11 cases of insanity which were there cured, six continued well throughout life; five died insane (the result of one or more relapses). This stands in the proportion of three remaining well to two and a half dying insane, and is, therefore, a more favourable view than that furnished by the experience of the Retreat.—Aerztlicher Bericht über die Wirksamkeit der Heil-Anstalt zu Siegburg, erstattet im December 1847. Koeln 1847.

† These conclusions as to the liability to insanity of the two sexes, and at different ages, vary materially from those very generally adopted. Dr. Thurnam enters into the subject at considerable length to prove, as we think he does satisfactorily, that the opposite conclusions on these questions are really to be attributed, not so much to any error in the data on which they have been founded, as to the application of faulty methods of statistical analysis to these data.

‡ The Construction and Government of Lunatic Asylums and Hospitals for the Insane, by John Conolly, M.D., &c., pp. 183. London, 1847.

pation are very limited; space for exercise is wanting; means of recreation and amusement are unthought of or unknown, and security is only effected by confining the limbs of the violent or troublesome, or by buildings so contrived as almost to shut out light and air, and utterly to exclude cheerfulness. All these circumstances are manifestly unfavourable to the recovery, or even to the amendment of those thus confined; and whilst there is not any foundation for the assertion that the number of cures, in curable or recent cases, is greater in private licensed houses for paupers than in public asylums, the mortality in such houses has been shown far to exceed that of the public institutions."

24. *Greater Economy of Public County Asylums.*—"As regards the question of expense, also, it appears that when once a county asylum is built and opened, the patients are maintained in it at less cost than in private licensed houses; the average charge per head in the licensed houses being 8s. 1½d., and the average cost in county asylums, 7s. 6½d.; which in an asylum for 300 patients, would constitute a considerable annual saving to the ratepayers of the county. How much better the pauper lunatic is taken care of in any well-conducted county asylum is easily to be ascertained by inspection.

25. *General Remarks on the Construction of an Asylum.*—"It is particularly necessary to observe that almost every desirable quality, both in the construction and government of an asylum, becomes more difficult to be obtained or preserved, when the size of the asylum is greater than is required for 350 or 400 patients." Next, "no part of the building ought to consist of more than two stories." As to form, "there is none so convenient as one in which the main part of the building is in one line; the kitchen, laundry, workshops, and various offices being arranged behind these central buildings. In this main line wings of moderate extent may be added at right angles, in each direction, in which case the building assumes what is called the H form." Farther, "we require that the building should be on a healthy site, freely admitting light and air, and drainage. Space should be allowed for summer and winter exercise, for various employments, and for all the purposes of domestic economy. Warmth must be provided for during the winter, light for the winter evenings, coolness and shade in the summer. Separate wards and bedrooms for the tranquil, for the sick, for the helpless, for the noisy, the unruly or violent, and the dirty; a supply of water so copious, and a drainage so complete, that the baths, water-closets, and building in general, may always be kept perfectly clean, and free from bad odours. There should be workshops, and workrooms, and schoolrooms, separate from the wards, and cheerfully situated; a chapel conveniently accessible from both sides of the asylum; as also a kitchen, a laundry, a bakehouse, a brewhouse, and rooms for stores, and all the requisites for gardening and farming; and also a surgery, and all that is necessary for the medical staff. All these are indispensable in every large public asylum." Lastly, as regards the external aspect of an asylum, the following remark is of much practical value:—"When it is remembered that many patients are sent to an asylum whose senses are as perfect, and whose feelings are as acute as those of sane people, and that from the moment they enter the outer gate, everything becomes remedial with them, or the reverse, the reason will at once be seen why the external aspect of an asylum should be more cheerful than imposing, more resembling a well-built hospital, than a place of seclusion or imprisonment. It should be surrounded by gardens, or a farm. . . . The reception-room should be a cheerful and neatly furnished sitting-room."

26. *Galleries, Dormitories, Sleeping-rooms.*—"A public asylum is ordinarily a series of galleries, out of which almost all the bedrooms open on one side, whilst on the other, large windows and doors open on the airing grounds and gardens. The galleries should be spacious, doors wide. A width of twelve feet and a height of eleven, seem to be suitable for the galleries of a county asylum. They should be light and cheerful; several small tables and chairs should be placed between the windows; the windows should be low and large, affording a view of pleasant courts and shrubberies.

"Every one who has any personal experience of sickness and bad nights, must know how sleep is conciliated or repelled by the temperature, the tranquillity, and even the general aspect of the bedroom, and the appearance or quality of the bedding and bedclothes. These feelings must be remembered, when we have to

make night and day arrangements for nervous and insane persons accustomed to the comforts of life, and there is no necessity for forgetting them even in an asylum for the poorest lunatics."

Much difference of opinion exists as to the comparative value of dormitories and single bedrooms. We greatly prefer the latter, and entirely concur with Dr. Conolly in his remark, "that in favour of large dormitories I do not know one good reason that can be advanced. Those who sleep in them are generally discontented. One patient accidentally noisy, disturbs the repose of fourteen or fifteen; and out of that number there is often some one noisy. . . . The violent patients *must, of course*, be in single rooms, and if dirty patients are herded together at night, a dormitory becomes perfectly disgusting; and as for the clean and orderly, and tranquil and convalescent patients, no complaint is so constantly on their lips, as that which arises from their not having a single room, and consequently not having a single moment to themselves, or any place where they can be quiet, or, in their frequently uttered words, where they can even say their prayers without interruption. I would therefore have, at least, two-thirds of the bedrooms single rooms, very few and small dormitories, and no large dormitories for any class of patients."

In a second chapter, Dr. Conolly considers in detail, *the various arrangements of galleries and sleeping-rooms*, into which, however, our limits forbid us following him, as also into the necessary arrangements for *airing courts and grounds*, which are considered in a portion of the third chapter.

27. *Employments and Recreations without and within Doors.*—"Among the means of relieving patients from the monotony of an asylum, and of preserving the bodily health, and at the same time of improving the condition of the mind, and promoting recovery, employment of some kind or other ranks the highest. Its regulation is proportionably important. The spirit in which it is conducted should be conformable to the general spirit of the asylum, and its abuse should be carefully guarded against. . . . The regulation of the employment of the patients is the regulation of a highly important remedy, and should never be attempted without the physician's assistance. As regards county asylums, there is now a great disposition in the officers to set every patient to work as soon as admitted; sometimes very improperly so, when perhaps work has made the poor creature mad. In many cases of recent mania and melancholia, work is positively detrimental to the patient; and in chronic cases, it is sometimes much objected to, and becomes on that account useless, if not hurtful.

"Constant and regular work cannot properly be exacted from insane persons, and they should not be kept at work so many hours as sane persons. Those patients who are employed in the workshops, laundries, bakehouses, &c., should be induced occasionally to walk round the field or gardens. In general, there is no want of a disposition to be occupied in those capable of exertion, and many patients are wretched if not allowed to work. To stigmatise as indolence what is the mere result of a malady which immediately reduces the nervous energy, and is often the beginning of paralysis, is an error into which no medical man would fall, and from which his opinion ought to protect any of his patients. There are some who are really indolent, but few of them who may not be in some way or other encouraged to some kind of occupation."

With regard to *recreation*, Dr. Conolly's remarks are likewise of much practical value. "In devising out-of-door recreation, it is necessary to avoid such as would endanger heedless patients, or be capable of being turned to mischievous purposes. Swings, saws, &c., are on these accounts scarcely to be recommended. The large rocking-horses to be seen in all our airing-courts at Hanwell, are free from all objection. Five or six patients can safely ride upon them at once, or one patient can be amused by them; the free exercise they afford relieves the excited, and the gentle motion which single patients, sitting in the seat at their ends, can enjoy, often soothes them to sleep. Means of amusement out of doors are useful to the attendants as well as to the patients; they contribute to relieve the irksomeness of their duties, and act as inducements to their taking the patients out as often as they can."

"Within doors similar care should be extended to providing recreation for the patients during the winter days and evenings. Each ward in which the patients

are generally tranquil, should be provided with books, journals, magazines,* illustrated papers, pictures, albums, bagatelle and draught-boards, dominoes, cards, puzzles, soft balls, and even some descriptions of playthings; and the supply of these means of amusement should be carefully kept up. If music is encouraged among the patients, kind people will be found to furnish instruments which could not properly be bought for a county asylum. Some of the attendants are tolerable musicians, and a small band has been formed which contributes much to the enjoyment of the winter evening parties. The female patients often have small parties, for dancing, and there are some entertainments on a larger scale, which have often been described. For these there ought to be a large apartment in every asylum, which might be otherwise useful also. In ordering these entertainments, the object should always be to produce gratification to the patients, without hurtful excitement. This is admirably effected in the evening entertainments, and as much forgotten in the extremely objectionable publicity of what are called *fancy fairs*, which ostentatious amusements, however well fitted to the idle and frivolous who are at large, are quite inconsistent with the character of an asylum for those suffering from mental disorder."†

28. *Clothing*.—"Among the most constant indications of insanity are to be observed negligence, or peculiarity as to dress.

"As regards the clothing of the pauper lunatic in a country asylum, it is especially desirable that it should be warm both in the winter and in the changeable weather of the autumn and spring, and cool and unirritating in the summer. Many of the insane also are predisposed to pulmonary consumption, and a flannel waistcoat or drawers are indispensable to them, as well as to those who become depressed and inactive in severe weather.

"When convalescence is commencing, the patient generally becomes more cheerful, if some assistance is given as regards the Sunday dress, and of this a coat or even a pretty cap, is an important part.

"Many private asylums are open to the charge of great neglect as respects the dress of patients of the classes far above pauperism. The rule should be in private asylums, that each gentleman should be encouraged to dress according to his station, and ladies should not be allowed to forget that they are ladies. Their friends are sometimes more in fault than they, and the patients are disfigured against their will; but it is disadvantageous to them to be thus permitted to fall into a negligence characteristic of advanced and incurable forms of disorder."

On the *government of asylums*, and on the *appointment and various duties of the attendants* of different classes, we can, in a Report like the present, only refer in terms of commendation to the 5th, 6th, and part of the 7th chapters of Dr. Conolly's treatise, the whole of which merits the most careful perusal by all in any way associated either as commissioners, visitors, medical officers, &c., with such institutions.

29. *Diet*.—"It is ordained that man should be capable of associating enjoyments with the mere partaking of food, which communicate satisfaction to the mind; and where the object is the restoration of mental tranquillity, attention to the diet, its preparation and serving, rank among remedial measures, acting on the mind as well as on the body. All habitual physical discomfort is opposed to mental recovery, and a scanty, ill-cooked, unwholesome diet, creates a chronic uneasiness and dissatisfaction, impairs the health, and increases the mortality of an asylum."

The diet of the insane ought to be liberal, and, except where contraindicated

* "At the suggestion of Her Majesty's Commissioners in Lunacy, we have caused three of the patients, schoolmasters, to amuse the others in the winter evenings by reading selected passages aloud; and the practice has been attended with the happiest effect."—Report of the Dunstan Lodge Lunatic Asylum (the asylum for the united counties of Cumberland and Westmoreland) for the year ending January 1, 1848, p. 8.

† These principles, thus ably laid down by Dr. Conolly, may be found variously illustrated in detail in many of the Reports of asylums for the insane. Of those which have reached us, we would specify, as being well worthy of notice, the Reports which for the last eight years have been published by Dr. Browne, of the Crichton Royal Institution for Lunatics at Dumfries; the Fiftieth Report of the Friends' Retreat near York; the Reports of the Dunstan Lodge Lunatic Asylum for 1846 and 7; the Reports of the Surrey Lunatic Asylum, 1843 to 6; The Report by Dr. Skae, of the Royal Edinburgh Asylum, for 1847, &c. &c.

(as in recent mania, &c.), of a more stimulating character than that of the population at large. A daily allowance of meat and porter is, in our opinion, indispensable. The dietaries of the county lunatic asylums, much though they have of late years improved, still err on the side of deficiency rather than of excess. Of those which have reached us, we would particularise the diet tables of the Suffolk County Asylum, as requiring amendment.—(Tenth Annual Report of the Suffolk Lunatic Asylum, p. 26, December 1847.)

30. *Religious Services and Instruction.*—"Into places of abode where words of kindness were once never heard, ministers of a religion of mercy have penetrated, and to those to whom tones of reproach or violent menace were once alone familiar, spiritual consolation has been successfully addressed, and lessons of instruction have been afforded with advantage."

"There can be no doubt," continues Dr. Conolly, and the observation embodies our views of the general extent to which the services of the church can be rendered available in the treatment of the insane, "that the arrangements made in an asylum for the observance of Sunday, may be such as to assist the general plan of a physician, whose endeavours are understood to be directed to curing his patients by tranquilizing the excited, and soliciting such faculties as are disordered or oppressed to ancient and customary exercise."*

Instruction, i. e. mental exercise, is *beginning* to occupy the place it ought to do in the treatment of mental disease. Dr. Browne, of Dumfries, has done more than any one with whom we are acquainted, in carrying into practice an intellectual treatment of intellectual disorders. It has been well observed by him,† that "while self analysis is destructive, while the contemplation of one idea or class of ideas is itself disease, and while the cultivation of the feelings tends to exaltation of sentiment, excitement, and extravagance, the operations of the intellect are discurive, and induce the application of the faculties to matters external to the mind, or foreign to its sources of disquietude, and incompatible with perturbation or uneasiness."

We would earnestly direct the attention of those of our readers engaged in the treatment of the insane, to the illustrations of the manner in which he carries out these views contained in the Report we have just quoted from, as also in the monthly notes of the "New Moon," a periodical written entirely by his patients, and most interesting to the psychological student.‡

§ V.—*Restraint.*

Unconnected with all the improvements which we have been considering, stands the subject of restraint. On the one hand, Dr. Conolly most strenuously opposes its employment in any shape or form;§ on the other, Dr. Thurnam, and those connected with the Retreat, as also Dr. Browne, Sir Alex. Morison,|| &c. &c., while equally condemning the cruelties which formerly were practised on the

* Did Dr. Conolly's subordinates but imitate his moderation, the following remark would never have been put in type. "Were we to take an equal number of sane persons, from the same rank of life, with characters and habits such as those of the generality of persons brought to this asylum, I do not think we should find a greater portion of them likely savingly to receive the truths of religion than is actually met with among my afflicted charge. And this is very remarkable," &c. &c. (which, if true, it certainly would be).—*County of Middlesex Pauper Lunatic Asylum. The Chaplain's Report, presented to the Committee of Visitors, January 12th, 1848.*

† Seventh Annual Report of the Crichton Royal Institution, &c. p. 26. 1846.

‡ "PERIODICAL. In resuscitating correct and healthy habits of thinking, in developing powers hitherto unknown or lost in the confusion consequent upon disease, and in giving a sphere of activity to minds which are only partially impaired, the 'New Moon' has proved most beneficial. As a pecuniary speculation, it has been fortunate. The proceeds have been scrupulously applied to enlarge the happiness of those by whom they are created. Allowances have been granted to patients on their discharge from the asylum; even public charities have assisted."—Report, 1847. Such an undertaking deserves the patronage of all interested in psychological medicine.

§ See the various Reports of the Middlesex Lunatic Asylum; Clinical Lectures, &c.; Lancet, 1845-6; Construction, &c., of Lunatic Asylums. Appendix.

|| Dr. Thurnam, Statistics, &c.; Reports of the Retreat, Dumfries and Surrey Lunatic Asylums, &c. &c.

insane, and while freely admitting that the use of restraint requires the most careful medical supervision, and is as unfit an agent to intrust to superintendents or other servants as ever opium would be, still assert that instances of furious or suicidal mania do occur from time to time in which the employment of mechanical restraint is attended with less injurious effects than are the struggles which, without such means of prevention, do occur between the attendants and their patients; struggles sometimes terminating fatally.*

In this latter view we concur, and have recently placed our opinion on record,† and so likewise do her Majesty's Commissioners in Lunacy. We cannot better elucidate our views on this subject than by quoting the following passage from the Fiftieth Report of the Retreat, containing as it does the well-sifted experience of half a century.

"It would be a very great and dangerous mistake to suppose that the measure of real liberty and comfort prevailing in hospitals for the insane, is at once to be estimated by their having entirely abandoned or otherwise the use of mechanical restraint. Those who are acquainted with the interior economy of these establishments must know how rare it is to meet with attendants who really possess the admirable power of moral suasion: we fear also it must be admitted that brute force is the means by which, in one form or another, a large majority of mankind seek to accomplish their purposes in their intercourse with the weak; and it cannot be conceded that the exclusion of straps and strait-waistcoats necessarily banishes every form in which that vulgar power can be exercised. Few indeed are the cases, if there be any, which can be said to be entirely without the range of moral influence, or to be wholly unaffected by the manner in which whatever is required to be done, is accomplished; but there doubtless are cases in which full liberty of action cannot be allowed with safety to the patient or to others: cases of violence, which no charm of thought, or eye, or voice, or manner, can sufficiently control, and to which physical power in one form or another must be temporarily applied. The question is not between moral suasion and vulgar force, but between different modes of outward constraint; and there are certainly other means than ligatures for the prevention of dangerous action by which the unhappy maniac may be at least equally tormented and degraded. . . . There can be no doubt, however, after the satisfactory experiments which have been made, that the use of mechanical restraint should be considered as a serious deviation from the general practice of management, and that it should not be resorted to but on extraordinary emergencies, and under the personal inspection, if possible, of the (medical) superintendent of the establishment."

The editor of the "Medico-Chirurgical Review"‡ likewise expresses himself in favour of a modified system of restraint.

Mr. Labatt has recently published an essay§ on the use of restraint, which is, however, but confusedly written, and throws no new light upon the subject.

That distinguished veteran psychologist Jacobi has lately asserted the occasional necessity of mechanical restraint in the treatment of insanity.||

§ VI.—*Diagnosis.*

Delirium tremens, hysteria, and phrenitis may, and have been, mistaken for insanity. Dr. Steward, in a recent work, has some excellent remarks on this subject.¶

31. *Delirium Tremens*.—"The disease," he says, "most likely to be confounded

* See Report on the inquest of John Cottingham, "Times," Oct. 25, 1847, quoted in the Appendix to the Report of the Dunstan Lodge Lunatic Asylum, 1847.

† See letter to the Editor of the Times, Oct. 15, 1847, quoted in the Report of the Dunstan Lodge (Cumberland and Westmoreland) Lunatic Asylum, 1847.

‡ The Medico-Chirurgical Review, No. 89, July 1846, Art. IV.

§ An Essay on the Use and Abuse of Restraint in the Management of the Insane, &c., with copious notes, pp. 76. Dublin, 1847.

|| Ueber die gänzliche Beseitigung körperl. Beschränkungs-mittel, &c.; von. M. Jacobi. — Allgemeine Zeitschrift für Psychiatrie. Erster Band, Viertes Heft.

¶ Practical Notes on Insanity, by John Burdett Steward, M. D., pp. 122. London, 1846. These notes are the production of a thoroughly practical man, and contain in a short space much valuable matter.

with insanity is delirium tremens; but the bustling, agitated manner, the intense expression of anxiety, generally about matters of business, the unequal enunciation, the tremulous tongue, the shaking frame, supported by the fact of the attack having succeeded a fit of hard drinking, are ample for the purpose of right judgment.³²

32. *Hysteria*.—"Hysteria, in some of its forms, resembles insanity. There are, indeed, some cases of hysteria which present little or nothing of the hysteric character, and yet are purely so; and in these cases the diagnosis is not so easy as we might wish, considering the nature of the responsibility. In the absence of the hysterical paroxysm—which, in difficult cases, we may wait for hours without witnessing—the symptoms which best mark the distinction between hysteria and mania are the variableness and incongruity of the symptoms in hysteria; the peculiar coating of the tongue—something like the silver paper covering a macaroon when cracked; the low muttering delirium; the closed eyes; the peculiar subdued and hardly visible smile, sometimes observed creeping, as it were, over the countenance; above all, tranquil sleep, succeeding generally about the evening. These distinctions might be sufficient, but there is one other more certain than any, but which experience alone can appreciate, and that is the general appearance of the patient. Chorea could only deceive the ignorant and inexperienced."

33. *Phrenitis*.—"Insanity may be distinguished from the delirium of phrenitis by the absence of fever in the former, and the state of the pulse, tongue and surface; all of which, in phrenitis, mark increased action in the circulating system, as well as great functional disturbance. At the same time, we must not forget that that form of symptomatic mania, accompanied by increased circulation through, or congestion in, the vessels of the brain or its membranes, not only resembles phrenitis, but very often ends in it. In such cases we can only become acquainted with the true state of our patient when, simultaneously with the removal of the functional derangement, subside also the maniacal symptoms. If, however, we see the case in its commencement, we ought to have no doubt as to the character of the approaching evil: and if our measures be prompt and active in this stage, the mischief may generally be arrested.

"The delirium of fever, and that often present in the last stage of phthisis, is attended in each by concomitant symptoms, sufficiently marking its origin.

"The diagnosis, therefore, in insanity, is easy enough."

34. *Feigned Insanity*.—Besides having to discriminate insanity from diseases simulating it, the medical practitioner may be called upon to decide how far, in any given case, the symptoms present are those of insanity, or are assumed for the purpose of simulating that disease. Now, while the diagnosis of real disease, as phrenitis, hysteria, &c., from insanity is easy enough, the discrimination between real and feigned insanity must always be a matter of great difficulty. We had occasion to discuss this subject in an essay in the second number of the "*Journal of Psychological Medicine*," from which we extract, with some slight abbreviation, the section on the diagnosis:—

"Section 5. *The Diagnosis*.—Seeing, then, that the diagnosis between real and feigned insanity is attended with so great difficulty, it becomes of importance to endeavour to discover rules which may guide us in the examination of any supposed case of feigned mental disease.

"There is only one broad and simple rule—viz., *an intimate acquaintance with the varied phases of intellectual and moral disorder which may affect the human mind*; and, in proportion to the extent of his knowledge of this subject, will be the physician's success in deciding on suspected cases.

"Certain distinctive marks which are likely to exist between a case of real and one of feigned insanity may, however, be deduced from this knowledge.

"A few such diagnostics, I have, in the following section, endeavoured briefly to present, under the heads of mania, dementia, (including chronic mania,) monomania, melancholia.

"a. *Mania*.—Although mania might be simulated, so as readily to impose upon those not acquainted with the symptoms of the disease, I feel satisfied that any one conversant with the treatment of insanity would detect the impostor.

"It is a physical impossibility for a person of sound mind to present the com-

fixed watchfulness, excitement, and resistance to the influence of medicine, which characterise this disorder.

"Again, the premonitory symptoms, as diseased action of the moral feelings, disorder of the digestive functions, headache, sleeplessness, &c., will, in a case of feigned insanity, be absent.

"A careful consideration of this point, together with the continued watching of the suspected person for a day or two, and the administration of an ordinary dose of opium, tartrate of antimony, colocynth, &c., would go far to aid in forming a correct diagnosis. Farther, the insensibility to all external impressions, as hunger, thirst, &c., which pre-eminently distinguishes mania from other varieties of mental disease, as also the total absence of all sense of decency and care for cleanliness, will not readily be for any period simulated.

"Violence and incoherence of thought are the only indications associated in the public mind with mania, which being present while the above-noticed premonitory and accompanying symptoms are absent, would readily enable us to detect the impostor.

"The frequency of the pulse has been much insisted on as a diagnostic of mania, particularly by Drs. Rush and Foville, and the late Sir H. Halford:

'My pulse, as yours, doth temperately keep time,
And makes as healthful music: it is not madness.'—*Hamlet*.

"The following table would, however, lead to the conclusion that frequency of the pulse cannot be considered as diagnostic of mania. I extract it from Professor Guy's 'Principles of Forensic Medicine.' The observations were made on eighty-nine insane females by Leuret and Mitivie, and on fifty healthy persons of the same sex by Dr. Guy. The results are expressed in per centage proportions of the whole number of observations, and show that *in forty-two per cent. in healthy females the pulse was above ninety, while in insane females, in only nineteen per cent. did it exceed ninety.*

State of Pulse.*	Leuret and Mitivie.	Professor Guy.	
		Standing.	Sitting.†
Above 100	8 per cent.	30 per cent.	12 per cent.
90 to 99	11 "	12 "	18 "
80 to 89	43 "	24 "	20 "
70 to 79	33 "	22 "	32 "
60 to 69	4 "	12 "	14 "
Under 60	1 "	0 "	4 "

"*b. Dementia (including chronic mania).*—This disorder would be more readily feigned than mania.

"Although here there is present partial incoherence of thought, the patient going off at a tangent from the subject of conversation, he generally, when questioned, is enabled to fix his ideas, and give a pertinent answer to a question put to him. Again, the perfect state of the memory of long past events, as compared with that of recent, is a striking feature of the real disease, not likely to be simulated. The impostor, in his anxiety to impress his hearers with the perfect disorder of his intellect, would, in all probability, overact his part, and give to every question an absurdly false answer.

"Still, in the more aggravated forms of this disorder, the power, even for an instant, of fixing the ideas, and the memory of even past events are so entirely lost, that these points would not fail in establishing the diagnosis.

"In such instances, the previous history of the case would aid much in decid-

* Those farther interested in the state of the pulse in the insane may consult, with advantage, an elaborate paper on the subject by Dr. Earle.—*American Journal of Medical Sciences*, No. xviii. art. 4.

† It being just possible that Leuret's observations were made in the sitting posture, Dr. Guy has given a column to that position also, which latter observations render the relative proportions above 90, in healthy females 30 per cent., in insane females 19 per cent.

ing as to the reality or simulation of the disease, the symptoms of confirmed dementia not generally presenting themselves but as a sequel to mania, monomania, or some other form of mental disease. Again, such persons are insensible to the operation of the passions of hope, fear, anger, &c., the emotions of which may, in those feigning dementia, perhaps be produced. Shakspeare, who evidently must have studied insanity from nature, notices this in that beautiful delineation of feigned dementia or chronic mania in the character of Edgar:

'My tears begin to take his part too much,
They'll mar my counterfeiting.'—*King Lear*.

"Foderé, in his '*Traité de Médecine Légale*,' mentions having thus detected an impostor, simulating this variety of insanity, viz. by ordering the application of the actual cautery.

"*c. Monomania*.—The simplest form of this disease is characterised by the presence of a false idea, or hallucination, which hallucination might with considerable success be stimulated.

"The most marked difference between a real and feigned case of monomania is in the condition of the power of reasoning. A real monomaniac cannot be reasoned out of his false ideas; and in the maintaining of them will set all the principles of logic at a defiance which the impostor would not, from a fear of discovery, venture to do. 'In real monomania, the patient never troubles himself to make the subject of his delusion square with other notions with which it has more or less relation; and the spectator wonders that he can possibly help observing the inconsistency of his ideas, and that when pointed out to him, he should seem to be indifferent to, or unaware of, this fact. In the simulator, on the contrary, the experienced physician will detect an unceasing endeavour to soften down the palpable absurdity of his delusions, or reconcile them with correct and rational notions.' (Ray, *op. cit.*)

"Again, the impostor will endeavour to force his delusion on the notice of observers, while the real monomaniac rarely recurs to his false ideas, unless when questioned, or when the conversation bears upon the subject.

"These two points appear to me to be the safest grounds on which to endeavour to form a correct diagnosis between real and feigned monomania.

"The more complicated form of monomania—viz. that preceded and accompanied by perverted action of the moral powers, and in which the delusion is but a symptom of the existing moral disorder, is not likely to be feigned—still less likely to be successfully so.

"*d. Melancholia*.—The simplest form of melancholia, viz. that unattended by bodily disease, and exhibited chiefly in an obstinate refusal to answer questions, and in a total disregard of all that is passing on around, might be successfully simulated. A case of this nature occurred to me, which I had under my observation for several months, and where I did not even suspect that the disorder was feigned.

"In suspected cases, the endeavouring, as is recommended above, to excite one or other of the mental emotions, and careful observation, are the only diagnostic marks that occur to me.

"It is a disorder with which the public are not so well acquainted as with general or partial mania, and which is not, therefore, so likely to be feigned.

‡ VII.—*Incubation*.

Dr. Forbes Winslow* has recently directed the attention of the profession to the period of the incubation of mental disease

35. *Urgent necessity of attending to the Early Signs and Symptoms of Disordered Mind*.—"I have no hesitation in asserting," says Dr. Winslow, "that a large proportion of the 8736 incurable lunatics confined in the asylums of England and Wales, are reduced to this melancholy state by the neglect to which they were subjected in the incipient stage of the malady. . . . Incipient insanity, provided it be not the result of severe physical injury to the head, or has not a congenital

* The incubation of Insanity, by Forbes Winslow, M. D. London, 1846. (*For private circulation*.)

origin, or is not associated with a strong hereditary predisposition, yields as readily to treatment as incipient inflammation or other ordinary diseases with which we have daily to combat. . . . The value of the symbols of incipient cerebral mischief is often not sufficiently, if at all, estimated until it is too late to repair the injury done. The storm has come on; we have neglected to take the necessary precautions against the threatened hurricane, and the consequence is inevitable and irreparable loss—not of life, but of all that made life desirable! And then, as Dr. Burrows observes, ‘comes the bitterness of self-accusation, and the unceasing regrets of the near connexions of the lunatic, because they have persevered in their wilful blindness till the calamity they deprecated has occurred.’”

36. *Duration of the period of Incubation.*—“With reference to the average period of incubation, my experience accords with that of Esquirol and other distinguished Continental and British psychological authorities, who have maintained that this stage may last for months, and even for years, before the explosion takes place. Pinel has related the history of a case in which the disease must have been in this stage for no less a period than fifteen years! I have often been consulted by patients who have voluntarily confessed to me that for some considerable time they have heroically struggled against the encroachments of this disorder, and this contest has been carefully concealed from those most nearly related to and associated with them. The duration of this premonitory stage must of course greatly depend upon the intensity of the exciting cause and the strength of the predisposition.”

37. *The Stages of the Period of Incubation.*—These Dr. Winslow divides into three.

1st. *The stage of consciousness.*—“As far as I can ascertain,” he says, “from the confession of patients, from an attentive examination of the numerous cases which have come under my observation, and from a careful investigation of the history of other individuals, I am induced to believe that for a long period prior to the actual development of insanity the patient is conscious of the existence of cerebral disorder, and of a deviation from mental health. . . . During the stage of consciousness, the friends of the patient sometimes perceive an alteration in his manner or temper, but these changes are seldom attributed to their proper cause—cerebral irritation. . . . In cases of insanity, accompanied by suicidal impulse, the stage referred to can usually be detected: but, alas! how seldom is it noticed until after an attempt, and often an effectual one, has been made upon the life! Reports of coroners’ inquests, which daily appear in the ordinary channels of communication, contain ample evidence of this fact. It is almost invariably stated that the party who committed suicide had for some time previously been much depressed in spirits—had exhibited an irritability of temper—that his habits had become changed—that he had neglected his ordinary duties, and had been apprehensive of some approaching calamity. Yet these well-marked symptoms of cerebral disease had passed unobserved, nothing being done to save the individual from the fearful abyss into which he was about to be precipitated!”

2d. *The stage of weakened volition.*—“Following the stage of consciousness, we have that of weakened volition. . . . If, for example, the mind be allowed to dwell on any great loss which it has sustained, without an effort being made to rouse it from its torpid condition, strange unnatural fancies crowd upon the imagination. Conscious of the existence of these ideal creations, the individual may make an effort to dismiss them from his mind, and for a time he may succeed. The power of volition at last becomes lessened in strength, until all efforts to control the train of thought cease, and the individual abandons himself to the predominant morbid idea.”

3d. *The stage of moral incoherency.*—“Among the earliest signs of approaching insanity is an alteration in the affections, the aversion being frequently in the direct ratio with the former attachment. . . . This tendency to take dislikes and aversions is not, as Dr. Conolly observes, confined to individuals. He refers to a case in which the patient, at the commencement of mania, complained of the difficulty he experienced in guarding against dislike to particular parts of a room or of a house, or of particular articles of furniture or of dress.”

38. *Characteristic Symptoms of the Period of Incubation.*—1st. *The mental symptoms.*

—"In this stage of cerebral disease, the patient manifests an earnestness about and a disposition to magnify trifles—to be inordinately depressed or elated by circumstances and feelings which would produce no effect on a properly-balanced and well-regulated mind. This is often followed by an excessive sensibility to impressions. The patient neglects his ordinary business, avoids the society of those with whom he has always associated—becomes suddenly extravagant in his habits—is subject to violent fits of passion—quarrels with his best friends about the most insignificant matters—becomes, without any cause, extremely jealous, and manifests a peevishness of temper and an impatience of contradiction; he has either a very exalted or low estimate of his own self-importance. A peculiar restlessness is one of the striking characteristics of incipient insanity.* A patient, not higher in rank than a keeper of a small country inn, and who was in the habit of consulting Dr. Conolly when he found his melancholy fits approaching, used at such times to complain of insufferable restlessness, without relief by day or night; and, striking his hand on his forehead, would express his misery by saying, with all the energy of morbid excitement: 'I am overwhelmed with a sea of thoughts.'"

2d. *The physical symptoms*.—Dr. Winslow calls attention to the premonitory symptoms of approaching insanity, evinced by a sense of tightness or constriction across the forehead, sometimes attended by noise in the ears, flashes of light, flushing of the face, &c.; by a state of watchfulness by night, and restlessness by day; by coitiveness, by gastric and hepatic derangement. "The inability to sleep," he says, "is a symptom which ought never to escape careful observation; I consider it one of the most valuable indications we possess of approaching insanity; it has never yet deceived me. Whenever I see this state of watchfulness by night, and restlessness by day, I feel that not another moment is to be lost. The pulse is the pulse of excitement; it is sometimes quick, and then the reverse. In incipient insanity it is an uncertain sign."

§ VIII.—Pathology.

I. MORBID ANATOMY.

39. The idea that the pathological cause of all cases of mental derangement, or even of the majority, consists in morbid alteration of the structure of the brain, and in the presence of the same of some one of the products of inflammation, is beginning to be doubted by those best qualified to judge in the matter, and insanity is being regarded more as a functional than an organic disease. Indeed, it may be asserted, without fear of contradiction, that no pathologist could in nine-tenths of the cases of mental derangement† which prove fatal, take upon himself to say, from an examination of the brain, whether the person had during life been of sound mind or not.

Dr. Seymour has well pointed out the unsatisfactory relations in which morbid anatomy and mental derangement at present stand.

"I go on," he says, "to speak of the little advantage hitherto which morbid anatomy has contributed to our improvement in the understanding of cases of mental derangement, and hence in the art of curing—the first great object of every physician's inquiries.

"Sir Benjamin Brodie told me that he had examined very accurately with Mr. Tatum, surgeon to St. George's Hospital, the brain of a gentleman who had been confined for many years, nor could he ascertain any apparent alteration from ordinary structure. Many, many cases of a similar nature have occurred, but, above all, the numerous and permanent cures which have arisen from allaying functional disturbance, prove that mental derangement does not necessarily depend on organic disease of the brain. If a lunatic advanced in life dies of apoplexy, the

* The patient appears to realize the conceptions of the poet:

"I would not if I could be blest,
I want no other paradise but rest."

† We here use the word *mental derangement*, as including all departure from the healthy manifestations of mind, and as opposed to fatuity and paralysis, where the mind is not so much deranged as destroyed, and its manifestations entirely suspended. In these latter instances organic alteration of the brain is generally present.

effusion of blood or fluid into one of the ventricles of the brain, or, at least, the condition of the arteries which produced it, is considered quite enough to explain the preceding malady. In another case the blame is laid to the vesicles found in the choroid plexus; the observer forgetting that such cases occur in very large numbers, without any degree of mental aberration ever having been observed. At another time, adhesion of the membranes dependent on age, or complete ossification and obliteration of the sutures, have been quite enough to satisfy the observer, even though he finds the same appearance next day in a patient who has died of carcinoma of the rectum, or stricture of the bowel. And this was still more the case, when all disease was considered to be the result of inflammation, acute or chronic; any appearance of thickening or increased vascularity, however old the former or recent the latter, accounted, in default of other appearances, for the mental aberration of the patient. For example, several cases of post-mortem examination are related in the early part of the work of the late Sir W. Ellis. Now I feel satisfied that in no one of these cases are there any appearances which I have not seen in patients who have died of disease wholly unconnected with disordered mind."

Under this category must be included the recent investigations of Dr. Boyd (Edin. Med. and Surg. Journal), and of Dr. Hitchman (Lancet), into the morbid anatomy of insanity.

"Another circumstance," says Dr. Burnett,* "which has not a little contributed to retard success in the treatment of insanity, and to divert the attention from this great object, has been the very conflicting evidence furnished by pathology, but especially by morbid anatomy. While one declares that the disease is inseparable from organic lesion of the brain, however local in its sphere, or microscopic in its character, another asserts that he has made autopsies without number upon the bodies of those who have died insane, not only in which no manifest alteration, either in character or consistence, could be detected in the brain, but in which he has found a great variety of morbid changes present in the organs remote from the supposed seat of the affection."

40. *Gangrene of the Lungs in the Insane*.—Dr. Fischel, of Prague,† has drawn attention to the frequency of gangrene of the lungs in the insane of that city. From an extended series of observations he concludes that this condition is found in 1·6 per cent. of all those who die of sound mind, and in 7·4 per cent. of all cases of insanity terminating fatally. Such is not the case in this country, nor, according to the experience of M. Guislain, in Belgium either. We have only seen one case of gangrene of the lungs in the insane, and M. Guislain‡ met with only five cases during a period of fourteen years, in which he enjoyed most extensive opportunities of observation.

II. CHEMICAL PATHOLOGY.

A reasonable hope may, we think, be entertained that further researches into the chemical composition of the fluids in the insane will at last throw light on that obscure subject, the pathology of insanity. The established fact of the hereditary transmission of insanity would at once point out an analogy between it and other hereditary blood-diseases, as gout, rheumatism, and scrofula. Again, the influence which certain medicinal agents,§ as opium, alcohol, the laughing gas, tobacco,

* Insanity Tested by Science, and shown to be a Disease rarely connected with permanent Organic Lesion of the Brain. By C. M. Burnett, M.D. London, 1848.

† Vierteljahrsschrift für die praktische Heilkunde, 1847; quoted in the Gazette Médicale, Février 1848.

‡ Gazette Médicale, 1836 and 1838.

§ See a most interesting paper "on the Psychological Effects of Certain Medicinal Agents," in the second number of the Psychological Journal. We regret that our limits prevent us from liberally extracting from this valuable essay.

A recent writer in the "British and Foreign Medical Review" (January 1847), with reference to this subject, says, "Whatever opinion we may hold in regard to the much-vexed question of the connexion between mind and body, there can be no doubt of the influence which the condition of the latter exerts over the operations of the former; and there are no more striking examples of such an influence than those which are presented by the introduction of alcohol, opium, hachisch, nitrous oxide, or some other intoxicating substance

&c.—agents which we know to act by combining and circulating with the blood—exert on the mental manifestations, would likewise tend to demonstrate the dependence of a healthy mental condition on a healthy, i. e. normal state, of the fluids of the body. Such also is the inference to be drawn from the effect the retention of urea in the system exerts over the mind. It is, therefore, with peculiar satisfaction that we draw the attention of our readers to recent investigations into the chemical pathology of insanity.

41. *Chemical Pathology of the Urine.*—"Some attention," says Dr. Burnett,* "has been lately paid to the urine of the insane by Erlenmeyer,† Heinrich,‡ Sutherland and Rigby,§ Bird,|| Jones,¶ &c. The most remarkable feature is the excess of the ammonia in the form of carbonate, urate, hydrochlorate, or the ammoniaco-magnesian phosphate. It must not be overlooked that the condition of the urine in these cases may take its character from the low degree of organization in the bladder, which accompanies, more or less, all nervous affections. Mr. Blizzard Curling** has alluded to this fact, and he calculates that the alkaline state of the urine owes itself, in some instances, to a loss in the natural sensibility of the bladder, or to a secretion of alkaline mucus from inflammation set up in that organ from the same cause."

Dr. Bence Jones †† has recently investigated the amount of earthy and alkaline phosphates in cases of insanity. "The variation of the phosphates in insanity," he says, "requires a very extended investigation; and this paper is a slight sketch or beginning of a subject which must be filled up and completed by those who have time and means at their disposal."

The following tabular view represents the results of Dr. Jones's researches:—

	Earthy phosphates.	Specific gravity.	Alkaline phosphates.	Total.
<i>Case of General Paralysis:</i>				
Case 1	1.50 per 1000 urine	1028.6	5.40	6.09
Same case	1.17 "	1023.3	2.97	4.14
Case 2 . . . . .	.79 "	1022.0	1.23	2.02
Case 3 . . . . .	.41 "	1016.6	5.36	5.77
Case 4	— "	1018.3	—	1.30
Case 5	— "	1006.7	—	1.35
<i>Cases of Mania:</i>				
Case 1, during attack .	1.32 "	1029.3	7.58	8.90
Ditto, convalescent .	.67 "	1020.0	2.44	3.11
Case 2 . . . . .	.42 "	1023.3	4.28	4.70
Case 3	— "	1025.9	—	1.26
Case 4 . . . . .	.74 "	1015.3	.38	1.12
Ditto . . . . .	.72 "	1015.9	.46	1.18
<i>Cases of Melancholia:</i>				
Case 1 . . . . .	.67 "	1024.3	3.36	4.03
Case 2	— "	1011.3	—	2.71
Case 3 . . . . .	.71 "	1025.9	3.08	3.79
Case 4	1.47 "	1027.9	2.34	3.81
<i>Case of Senile Dementia</i> .	.71 "	1021.0	2.10	2.81

into the current of the circulation. That the presence of a minute portion of any of these substances—a portion almost too minute to be recognized by ordinary chemical processes—in the blood which is passing through the capillaries of the brain, should so alter its relations to the nervous substance as to produce results which manifest themselves in an entire change of the ordinary course of psychical phenomena, must always be included, we apprehend, as a fundamental fact in any theory that may be framed by philosophers who please themselves with speculating on this mysterious question."—P. 219.

* Op. cit. p. 48.

† Observat. Physiol.-Pathol., &c. De Urina Maniacorum.

‡ Häser's Arch., vol. vii. 2; also Zeitschrift für Psychiatrie. Dritter Band. Erstes Heft.

§ Medical Gazette, June 1845.

|| Urinary Deposits, p. 188.

¶ Medico-Chirurg. Transactions, vol. xii. p. 21.

** Medical Gazette, 1836.

†† Lancet, September 11, 1847.

The conclusions which he arrives at are thus stated:—

"From the five cases of 'general paralysis of the insane,' no very certain deduction can be made. In four of the cases, the disease was in an early stage. In two of these four, the total amount of phosphates is diminished; in the other two, the phosphates are about the natural quantity. As regards the earthy phosphates, there is certainly no increase in their amount in the four analyses here given.—The fifth case had been for many years in St. Luke's Hospital. The decomposition of the urine was probably the cause of the low specific gravity; but this would not have altered the amount of alkaline phosphates, which are certainly much below the healthy quantity.

"The amount of the phosphates varies in the different cases remarkably; far too much to admit of accurate deductions from so few analyses. General paralysis being a chronic disease, I do not expect that even a very extended inquiry will give any positive results; and it is on this account I would rather direct further directions to those cases of insanity in which acute paroxysms occur, such as cases of mania. Of the four cases of mania in which I examined the urine, the first is the most interesting, because, in it, I think, there is evidence of that increase of the amount of phosphates excreted during a paroxysm, which, I hope, further researches will confirm; when the patient was convalescent, the amount of phosphates is found to be much diminished.

"In two other cases of mania, in which there were no acute symptoms, the amount of phosphates is so much diminished that it approaches closely to that diminution of the phosphates which I have observed in some cases of delirium tremens. This point also requires a far more extended inquiry. Are there two states of mania—one, in which the phosphates are increased: the other, in which they are diminished? In delirium, I shall show the probability of the existence of two such states. In mania, it seems reasonable to expect that the phosphates would be increased during the paroxysm; but the diminution of their amount, if proved, would be of equal interest. At present, however, the facts want to be proved; and it is desirable to do no more than notice the distinction, for the purpose of directing inquiry to the subject.

"The four cases of melancholia on which my analyses were made, give no marked results; all were recent cases. The contrast between the amount of alkaline phosphates in the last case of melancholia and the first case of mania is, perhaps, worthy of observation."

42. *Chemical Pathology of the Blood*.—Dr. Burnett,* in his treatise on "Insanity tested by Science," &c., states the blood to be the seat of insanity. "Insanity," he says, "is not, and ought not, in the first instance, and often to the very last, to be regarded as a disease of the brain; but as a disease floating in the blood, having no fixed or local character, but producing the morbid phenomena which are comprehended under the title of insanity; it arises from a derangement or mal-assimilation of those particular materials of the blood—carbon and phosphorus—which constitute the bulk of the elementary tissue of the brain and nervous system generally. When, therefore, we say we believe the disease to be in the blood, we consider it to exist there in the form of either deteriorated or wrongly constructed chemical compounds. In this sense it must be the *seat*, although Fletcher and Broussais consider it only in the light of the *vehicle* of disease."

"There is," he continues, "much experience, and no slight argument, to induce

* We cannot withhold the expression of our most unqualified surprise, that Dr. Burnett should appear to regard himself as the originator of this theory, and that no mention is made in this work of the earlier publication by others of a similar opinion. Common justice induces us to extract the following passage from the "British and Foreign Medical Review" for January, 1847. "The marked correspondence which may be traced between the phenomena of insanity and those which are induced by the introduction of such substances (alcohol, opium, &c.) into the blood, must not be overlooked in any attempt to arrive at the true pathology of the former condition, or to bring it within the domain of the therapeutic art. We believe that Mr. Sheppard may claim the merit of having first prominently directed attention to this method of viewing the phenomena of insanity; and we would take this opportunity of stating our present feeling, that in our unfavourable criticism of his little work, 'Insanity a Blood Disease,' (see vol. xvii., p. 526,) we had rather too strongly before our eyes the demerits of his hypothesis, than its positive value." (P. 219.)

us to direct our inquiry to the condition of the blood in mental diseases. And, from close observation, we are convinced that the disease called insanity, though unavoidably connected, in some instances, with organic lesion, and even destruction of the brain, as after many mechanical injuries, is, in four cases out of five, in the first instance, a functional disease, quite unconnected with any morbid alteration or change of structure in the brain; and in many of these four cases, it continues through a long series of years still a functional disease, kept up by mal-assimilation. It is, in fact, according to strict pathology, a disease of the blood, but pre-eminently so from its non-inflammatory character preventing the morbid alteration of structure, more or less quickly consequent on inflammatory diseases. We believe that insanity in such cases is immediately caused by the deterioration of the fatty matter of the blood, by which the carbon and phosphorus are unable to combine in healthy proportions, which substances in a normal state, it is known, form the elementary tissue of the brain and nerves, and which chief constituents fail to make that part of the organism of the body amenable to the operation of the vital and mental principles conveyed in the blood.

"Whether this may arise from causes immediately connected with the processes of primary and secondary assimilation, or whether it is consequent upon a particular state of the venous circulation in the head, is uncertain; but the fact made known by Braconnot and Chevreul, that the fatty matter united with phosphorus, which constitutes the essential substance of the brain and nerves, has been found by them in the blood, thus combined, favours the idea that the original fault is in the process of secondary assimilation, by which the carbon and phosphorus unite with other matters to form new and abnormal compounds. We, however, incline more to the belief that the true separation of cerebral and nervous matter, however essentially dependent upon healthy secondary assimilation, is, nevertheless, only finally completed in the blood-vessels after they have entered those tissues."

The happy results following Guggenbuhl's exertions on behalf of the cretins,* illustrate, as Dr. Burnett has pointed out, the truth of this theory. The marked improvements following the removal of such cases from within the influence of the exciting causes of their disease, viz, deteriorated air and food, "put to silence any hypothesis that assumes that the organization of the brain was malformed in the common sense of the word." Again, argues Dr. Burnett, in another chapter, "the success which attends the efforts of many enlightened physicians to restore, in some degree, the mental powers of the idiotic and imbecile, is again a verification of the same principle we are contending for. If these poor creatures had organic disease, or malformation of the brain, they would manifest no improvement when exposed to the action of those second causes which have been so long denied them; but if the natural organization of the brain has only been arrested, there are both reason and hope that human efforts may partially, though not entirely, restore them. This is precisely what has taken place."†

Dr. Burnett has, in the first three chapters of his treatise, with considerable ability, developed the theory of mental derangement, being primarily a blood disease, and has thus done much to forward the pathology of insanity. We are, however, tempted to conclude this paragraph with a continuation of the passage we have already in part quoted‡ from the "British and Foreign Medical Review" for January, 1847, and which, we think, in a measure applies to Dr. Burnett as it does in the reviewer's opinion to Mr Sheppard, the originator of this theory, that insanity is a blood disease. "His (Mr. Sheppard's) notion," says the writer, "was, we are ready to admit, quite correct in regard to a certain class of cases of insanity: and his fault was that which is so common with young writers, namely, hasty generalization; the same idea being most unwarrantably stretched, so as to include all forms of this disease. There can be no doubt that the properties of the blood may be perverted by abnormal changes going on within the system, as well as by the direct introduction of poisonous substances from without; and its

* See Twining on "Cretinism."

† See Notes on the Parisian Lunatic Asylums, by Dr. Stubbs, "Journal of Psychological Medicine," No. 1, January, 1848.

‡ See foot-note, page 335.

due relations to the nervous structure may be thus completely changed, so that psychical operations are seriously interfered with, and a form of insanity develops itself which is capable of being removed by the adoption of measures calculated to eliminate the morbid matter from the blood, and to restore it to its pristine purity. And we have little doubt that a part, at least, of the phenomena of those forms of insanity which are brought on by what are commonly termed *moral* causes, are referable to the same agency; for every physiologist well knows how much the excitement of the passions and emotions involuntarily and, indeed, unconsciously affects those organic functions by which the blood is prepared and renovated; and how speedily any affection in the depurating actions (those of the liver and kidney more especially) is manifested in the abatement or irregularity of the functional powers of the nervous centres. We believe that an attentive study of the etiology and phenomena of insanity will gradually lead to the establishment of well-marked distinctions between this class of cases and that in which disease of the cerebral structure itself is the proximate cause of the disordered psychical manifestations; and that in proportion as this difference is kept in view, will be the clearness of our prognosis and the efficiency of our remedial measures."

III. MENTAL PATHOLOGY.

43. *Double Consciousness.*—Of the many suggestions hard to solve, which the symptoms of insanity present to the mental philosopher, there are none more so than those which arise from a contemplation of that most remarkable of mental phenomena, double consciousness, a condition in which the individual has a double existence, retaining while in the one no recollection of the transactions of the other.

Dugald Stewart* defines consciousness as "the immediate knowledge which the mind has of its sensations and thoughts, and in general of all its present operations. From consciousness and memory," he adds, "we acquire the notion, and are impressed with the conviction of our own personal identity." Now, in the diseased state we are considering, there are *two distinct* consciousnesses apparently unconnected one with the other; as it were the manifestation of a double mind in one body.†

Two such cases have lately been recorded, one by Dr. Skae,‡ the other by Dr. Browne.§

In Dr. Skae's case, religious melancholia alternated with a sound state of mind. "From an early period in the history of this case," says Dr. Skae, "it was observed that the symptoms displayed an aggravation every alternate day. On each alternate day the patient will neither eat, sleep, nor walk, but continues incessantly turning the leaves of a Bible, complaining piteously of his misery, &c. &c. On the intermediate days he is, comparatively speaking, quite well, enters into the domestic duties of his family, eats heartily, walks out, transacts business, assures every one he is quite well, and appears to entertain no apprehension of a return of his complaints. What is chiefly remarkable and interesting in the present features of the case, is the sort of double existence which the individual appears to have. On those days on which he is affected with his malady he appears to have no remembrance whatever of the previous or of any former day on which he was comparatively well, nor of any of the engagements of those days; he cannot tell whether he was out, or what he did, nor whom he saw, nor any transactions in which he was occupied. Neither does he anticipate any amendment on the succeeding day, but contemplates the future with unmitigated despondency. On the intermediate days, on the other hand, he asserts that he is quite well, denies that he has any complaints, and appears satisfied that he was as well the previous day as he then is. On that day he transacts business, &c. &c., and distinctly re-

* Outlines of Moral Philosophy.

† See a curious book, by Dr. Wigan, "The Duality of the Mind," &c. which our limited space forbids us noticing.

‡ Case of intermittent mental disorder of the tertian type with double consciousness. "Northern Journal of Medicine," No 14.

§ Case of double or diseased consciousness. "Phrenological Journal," July, 1847,

members the transactions of previous days on which he was well. He appears, in short, to have a double consciousness—a sort of twofold existence—one half of which he spends in the rational enjoyment of life and discharge of its duties; and the other in a state of hopeless hypochondriacism, amounting almost to complete mental aberration."

Dr. Browne's case appears to partake more of the chameleon hues of hysteria, consisting of "trances of two hours, occurring repeatedly during each day," and yielded to a moral impression, to the apprehension of being removed to the vicinity of a lunatic asylum, and to the suspicion of being regarded as of unsound mind.

44. *Criminal Insanity*.—The various cases of presumed mental derangement which have recently been the subject of criminal prosecutions, have led to the frequent discussion of the *question of responsibility and irresponsibility of the partially insane*. Our limits will only permit us to name the recent publications on the subject, to which we would wish to refer our readers for an exposition of this most intricate question.

1. "Clinical Facts and Reflections;" also "Remarks on the Impunity of Murder in some cases of Presumed Insanity;" by T. Mayo, M.D. Lond. 1847.
2. "The Consciousness of Right and Wrong, a Just Test of the Plea of Partial Insanity in Criminal Cases;" by C. Lockhart Robertson, M.D. Edinburgh, 1847.
3. "Criminal Insanity;" a review of these two essays. "Journal of Psychological Medicine," No. 1. January 1848.
4. "British and Foreign Medical Review;" July 1847. Article 18.
5. "The plea of Insanity in Criminal Cases;" by Forbes Winslow, M.D.

§ IX.—Medical Treatment.

Considerable attention has lately been devoted to the medical treatment of the various forms of mental disease.

Her Majesty's Commissioners in Lunacy, in the Appendix to their last Report (1847), have collected much valuable information on this subject; and several authors, particularly Dr. Seymour and Dr. Williams, have recently treated of it in their published works.

"If," observes Dr. Seymour, "there is no evidence of morbid growth or change existing, marked by palsy (especially of the lower extremities), fits, loss of memory, impaired vision, deafness, &c., we may fairly believe that the mental derangement is the result of disturbance of the functions of the brain, either originally or secondary to disease of some important organ at a distance; and we are bound by every sense of duty, by every reason which ought to direct the conduct of the physician, to apply the resources of our art to its cure."

"As a prefatory remark to speaking of treatment," says Dr. Steward, "I would wish to impress upon the minds of my readers the fact too often lost sight of, that insanity, generally speaking, in its early stages, is a curable disease; that the first period of its approach is the time when treatment is most effective; and that the want of proper management at this critical moment, and, as is too often the case, the total absence of medical treatment, constitute the true cause of that great proportion of incurable cases which has made insanity the opprobrium of medicine. . . . In laying down a plan for the medical treatment of the insane, it should always be borne in mind that in the majority of cases we have difficulties to encounter, not present where the mind is perfect. Not only are generally closed against us all the usual sources of information, but having formed our judgment and decided our plan of treatment, we have still, with few exceptions, to overcome the difficulty of determined opposition to the administration of remedies. Nothing is more easy than to prescribe; the difficulty is to ensure compliance with our prescriptions, and this difficulty contracts within narrow limits our list of remedies. Still there remain to us ample means, if judiciously employed, of answering every useful indication. . . . In insanity, not only must we depend in great measure upon our own unaided judgment as to the nature and state of the disease, but we must so select our remedies, and so choose our mode of exhibition, as to ensure the expected result without consulting the will of our patient; and as the difficulties to be overcome are always regu-

lated by the form of the maniacal affection, it stands to reason that, to ensure success, experience is equally important in this as in any other branch of medicine." (Op. cit.)

We shall, in the present section, endeavour to present a condensed view of the remedies which have lately been suggested or discussed for the medical treatment of the various varieties of insanity.

I. MANIA.

45. *General Bleeding*.—Her Majesty's Commissioners in Lunacy state that "the medical men who have replied to our inquiries are nearly uniform in condemning the practice of venesection, or general bleeding, in ordinary maniacal cases. . . . General blood-letting is resorted to only in cases of a peculiar description, viz., in cases displaying plethora, which threatens apoplexy, and never for the purpose of quieting a paroxysm of excitement." (Report, 1847.)

In mania, however, as Dr. Williams has well observed,* "*irritation is often confounded with inflammation*. The maxims so ably taught by Mr. Travers are forgotten; the object being to calm the action, not to diminish from the power—the nervous power being much more easily depressed than raised. Should this advice be neglected, and bleeding be ordered, stupor, or coma, or confirmed mania may be the consequence. In many cases where there is the most ferocious delirium, with great muscular power, yet the pulse is very quick, weak, and fluttering, and even the slightest depletion at once knocks down the powers; but even if the patient should again rally, there is great danger of his becoming idiotic. As Dr. Marshall Hall has so truly stated, under *irritation* exhaustion is sooner produced than in health; while under *inflammation* the system bears loss of blood with less exhaustion than in health. . . . No one was more anxious than the late Dr. Abercrombie to point out the impropriety of depleting in many affections of the brain, even where there are wildness, excitement, and incoherency with great restlessness."

46. *Local Bleeding*.—There are but few cases of mania, whether depending upon irritation, or on a congested state of the brain, which are not more or less benefited by judicious local depletion; and the more recent the case, the more marked will be the advantage derived from the same. Almost every physician of any experience, who may lately have recorded his opinion on the value of local blood-letting in the treatment of mania, recommends its employment.

Leeches may be applied to the shaven scalp, or to the temples; or else the cupping-glasses may be had recourse to, applied either to the temples or to the nape of the neck. The former situation is to be preferred. Again, as Dr. Williams has well observed, "a very efficient way of relieving head symptoms, when dependent on visceral congestion, more especially of the liver, is applying leeches to the rectum, and, if considered necessary, subsequently placing the patient in a warm bath. A large quantity of blood may be lost in this way without producing much prostration." (Op. cit., p. 32.)

47. *Purgatives*.—In almost every case of mania the bowels are very torpid, the secretions vitiated, and there is generally a large accumulation of fecal matter in the intestines. The bowels therefore require, in the first instance, to be freely evacuated. "Where no opposition is made by the patient," says Dr. Steward, "the choice of remedies is regulated by the same rules which guide us in the treatment of the same. Where there is difficulty in giving opening medicine, croton oil is valuable, because its bulk is small, and its operation generally certain; and should circumstances compel recourse to administration in food, it is not easily discovered. Calomel is a convenient purgative, on account of its being tasteless; but it is not a safe one, unless we can follow it by fluid medicine; for it very often produces its specific instead of its purgative effect. Jalap, being tasteless, is also a useful purgative. If all our efforts to give medicine fail, we must have recourse to small doses of the antimonii potassio tartras, which will soon act upon the bowels."

* An Essay on the use of Narcotics and other Remedial Agents calculated to produce Sleep in the Treatment of Insanity. By Joseph Williams, M.D. London, 1846.

[In our opinion, the latter means of acting upon the bowels is the most valuable we possess for the treatment of the generality of recent cases of mania, reducing, as it does, alike arterial and nervous excitement, and producing copious fluid and bilious evacuations.]

The vitiated state of the secretions generally demands the *continued* use of some mild laxative.

48. *Emetics*.—"Much difference of opinion," says Dr. Williams, "exists with respect to the advantages or disadvantages of emetics in the treatment of the insane. . . . The objection often made to the employment of emetics is, that congestion of the brain is caused by the violent expulsive efforts; but Sir William Ellis found the temporary inconvenience more than counterbalanced by the subsequent good effects. Many cases of vigilania, dependent on monomania or even furious mania, will yield to ant. potass.² iart., and often, on the vomiting ceasing, refreshing sleep will follow. . . . There are cases of excitement where, although injudicious to bleed in any form, yet, administering an emetic will be found most useful. Patients who have not slept for several nights will often obtain many hours' sleep after vomiting has ceased." (Op. cit., p. 45)

[In recent cases of mania there is generally an accumulation of phlegm, bile, &c., in the stomach, the evacuation of which is often attended by the happiest results.]

49. *Sedatives*.—Dr. Steward entirely condemns the use of sedatives in the treatment of the insane. "Sedatives with the insane," he says, "act generally, if not invariably, as stimulants. They exercise little or no influence over the insomnia of mania, which seems as it were a part of the disease, which resists all remedies, and which yields only when Nature, fairly tired out by long exertion, sinks exhausted, or when sleep comes, the harbinger of returning health. In what dose opium, conium, hyoscyamus, &c., might each produce its sedative effect in the delirium of mania, I know not; neither should I dare to press the medicine so far, lest its sedative effect might be fatal." In this sweeping condemnation of the use of sedatives in the treatment of mania we cannot concur. Our limits forbidding us to enter minutely into the value of each and every sedative, which, by different recent writers, have been recommended for the treatment of mania, we feel assured that we cannot better supply this omission than by quoting the following practical remarks on the use of anodynes in the treatment of mania, recently placed on record by so distinguished a physician as Dr. Alexander Sutherland.

"*Anodynes*.—These remedies are, according to my experience, of essential service in those cases of insanity which border closely upon delirium tremens; in cases of puerperal mania in the acute stage, and particularly in the paroxysms and sleeplessness of mania; in cases where there is great nervous irritability from poverty of blood; and in cases combined with cachexia from starvation and other causes. They seem to me to be contraindicated when there are symptoms of incomplete general paralysis and congestion of the head. Prescribed merely because the case is one of insanity, without taking into consideration physical symptoms accompanying it, or not in proper doses, or not given sufficiently often during the day as well as during the night—these remedies disappoint the practitioner. They keep up irritation, and add to the excitement, instead of allaying it. I have sometimes seen a very simple case converted into a very complicated one by the excessive use of anodynes. There is an idiosyncrasy, as every one knows, in some constitutions which does not admit of the exhibition of narcotics, especially morphia, even in the smallest dose. One-eighth of a grain has been known to produce such incessant vomiting as to endanger the life of the patient. Great care should also be taken, even when the use of opiates is indicated, not to continue them too long; for if narcotization is produced, much harm will follow. The evacuations are hard and black, and the irritation is extreme. At St. Luke's I have been in the habit, since my appointment to the hospital, of prescribing the acetate of morphia in solution with distilled water; in private practice I often combine it with distilled vinegar (a very old remedy in insanity). The hydrochlorate is combined with advantage with dilute hydrochloric acid. I have found the meconiate of morphia very serviceable in cases where the two former preparations have not agreed with the patient. Hyoscyamus and conium are also very serviceable. I

am in the habit, often, of prescribing the former in those cases where it is essential that the bowels should not become constipated; and as it also acts upon the kidneys and skin, it is likewise useful when we wish the increase of the secretions of those organs. Combined with the potassio-tartrate of antimony, henbane is useful also in paroxysms of furor. I have seen considerable lassitude follow the administration of f. ʒj tinct. hyos. with a quarter of a grain of the former repeated three times in the course of the day. This is, of course, in some cases, not to be desired. Combined with camphor, opium allays the irritability of those suffering under mania complicated with delirium tremens; and in the incipient paralysis of the insane tartar emetic is the remedy I place most confidence in. Conium is very useful either given alone or in combination with hyoscyamus and opium. The boasted effects of camphor have not been realised to the extent, at least, which some of its advocates have insisted upon. I think, however, its effects in allaying uterine irritation cannot be doubted. The combination of hop, camphor, and henbane is valuable in such cases. Stramonium is a remedy which has not succeeded in my hands, although I have tried it in large doses. Belladonna and aconite may be placed in the same category with stramonium. I obtained some good effect in the employment of aconite in a case of intermitting mania, where every other remedy had failed. The combination of narcotics is highly advantageous, but, of course, this is well known. I am not in the habit of prescribing narcotics as heroics; but it is material that they should be given in sufficiently large doses. A patient labouring under mania from drink requires large and often repeated doses of morphia or tinct. opii. Hydrocyanic acid is a very useful sedative, and is specially useful where there are pain and a sense of weight about the præcordia; it may be combined, according to circumstances, with an alkali and digitalis; which combination I have obtained benefit from in cases of great nervous excitement, with acid eructations and palpitations of the heart. Cannabis indica I have prescribed in many cases, I am sorry to say, without effect; the preparation, possibly, was not good, although I took great pains in procuring it. The difficulty of obtaining it, &c., and the uncertainty of its effect, must, I think, render the remedy inferior to others whose virtues have been long tested." (Appendix to Report of Commissioners in Lunacy, 1847.)

50. *Counter-irritants*.—"No set of remedies," says Dr. Stewart, "are more useful in symptomatic and organic mania than these. The cases in which counter-irritants are more particularly indicated are those where evident determination of blood to the brain warns us of approaching danger; or where mischief has been done to the brain by a previous attack of apoplexy, and future evil is apprehended. In these cases, as adjuvants to depletion, counter-irritants are of the greatest use. Also they are useful in cases of symptomatic mania, where some accustomed evacuation or secretion has suddenly ceased." (Op. cit., p. 61.)

51. *Tonics*, accompanied with a liberal diet, and a moderate allowance of stimuli, are of great service to the more protracted cases of mania—an opinion recent experience has tended more and more to confirm.

52. *Baths*.—"In no persons," observes Dr. Steward, "is the circulation more unequal than in the insane. In none is it of more importance to preserve its equilibrium, and to produce and maintain a healthy and vigorous action in the superficial vessels."

In recent cases of mania, the *warm bath*, with cold lotions applied to the head, is often of great value in procuring sleep. "It will generally," says Dr. Williams, "be found a very powerful means of diminishing cerebral congestion, and allaying irritation in maniacal cases. . . . In some cases the *cold bath*, if judiciously used, may prove very serviceable; and many patients who have suffered from partial or complete vigilantia have enjoyed profound sleep after immersion in the cold bath."

53. *Chloroform*.—"This remedy," says Dr. Skae,* "was used by me immediately after the discovery of its anæsthetic agency; and a number of observations were soon afterwards made with it—some of them in the presence of Professors Christison and Simpson. We found that it produced the same physiological effects upon the insane as upon the sane; and that the most violent and excited were

* Physicians' Annual Report to the Managers of the Royal Edinburgh Asylum, 1847.

almost immediately put into a state of calm and profound repose by its influence. As a curative agent, it has, as yet, been of no benefit in the treatment of the cases in this asylum, although I am not without hopes that in a certain class of cases it may be of use. I have, however, found it extremely serviceable for many minor purposes; such as the administration of food* by means of the stomach-pump, and of enemata, and in the performance of various necessary operations." [We recently saw the application of this agent in a most violent case of mania, in the Bethlehem Lunatic Hospital. It had, in this case, on several occasions, been had recourse to, but in each the previous symptoms recurred as soon as the physiological effects of the drug passed off.]

II. DEMENTIA.

The medical treatment of dementia resolves itself into an application of the principles of medicine to the physical symptoms of the case.

III. PARTIAL INSANITY.

54. *Melancholia*.—Dr. Seymour has devoted the third chapter of his recent work† to a consideration of the medical treatment of this variety of partial insanity, which he regards "as the most usually amenable to remedies." The remedy which Dr. Seymour lauds so highly in the treatment of melancholia is morphia. "During fifteen years," he says, "I have been anxiously watching the result of cases of melancholia treated on this system; upwards of seventy cases have recovered during that period of time, and I consider no case to be called a recovery unless two years, at least, of unabated health have elapsed since the treatment concluded. In nearly twenty cases the treatment has failed, or only given temporary relief. . . . The preparation (continues Dr. Seymour) which I have preferred, and, with two or three exceptions, I have always used, is the acetate of morphia. The mode of preparation—the solution: forty drops of the solution which I have generally employed contain one grain of the alkaloid salt. It has generally been, in mild cases, my practice to begin by a quarter of a grain every night in solution; then, after a week, to increase this to half a grain. It has rarely, in such cases, been necessary to increase the dose beyond half a grain. In severe cases, I begin with half a grain, and increase it speedily to a grain—rarely, most rarely, beyond this dose. The medicine is given at bedtime, and only at bedtime, the period which is intended for sleep; but it must be repeated, *without the intermission* of a single night, for several weeks in mild cases, for at the least three months in the most severe ones. In some of these cases, at first, sleep is not produced; in very few rest is not produced. Slight nausea and disturbance of the head are felt the first few mornings, but in these cases almost always at first, and *always after a short time*, but sleep is procured, and the waking hours are free from pain.

"The effect of the medicine is in precise analogy with what follows. Suppose a man toiling with professional anxieties, and with domestic cares, returns home after a larger proportion than usual of the annoyances of his profession or calling, fatigued beyond his powers, wearied in mind. He returns to rest unhappy, discontented, inveighing against his lot, and what he considers to be his peculiar cares. He sleeps sound, and when about to rise in the morning, the sun streaming in at the windows, after a sound sleep, how does he look upon the evils of the preceding day? Do they not lose a large portion of their affliction? Does he not look in a totally different point of view at the very causes of distress which afflicted him the night before‡?

* In all probability the loss of sensation which accompanies the use of chloroform might greatly mask the ordinary symptoms which would indicate the passage of the œsophagus tube into the air-passages; and without great precaution a fatal accident might happen, which has taken place in careful hands without chloroform—the injection of the nutriment into the air-passages.

† *Thoughts on the Nature and Treatment of several Severe Diseases of the Human Body.* By Edward J. Seymour, M. D., &c. vol. i. London, 1847.

‡ This is beautifully referred to by the great poet of truth and nature, Sir Walter Scott. In "*Quentin Durward*," he draws the distinction between the feelings of fatigued and re-

"And this is precisely what the effect of morphia, properly applied, effects in cases of melancholy mental derangement, but not once or twice, as would be the case in trifling distress. Hence it must be repeated regularly every night, until the nervous system is soothed. Thus it requires weeks for the medicine to be repeated regularly, even without a single intermission, and the cure is the result. . . . If the dose were constantly to be increased, then, indeed, a vicious habit would be incurred; but it is to be used in small quantities, regularly repeated, and *never increased beyond a certain point*, whether taken for six weeks or six years!"

[Dr. Seymour then proceeds to detail several cases in which this treatment proved successful, and then continues to remark on the other means of treatment to be adopted thus:]

"In the cases hitherto related, no remedy was, in the great majority, employed except the morphia, and taking the precaution of keeping the bowels open every alternate day. This is necessary, as in the first administration the morphia constipates; but after some days this disagreeable consequence disappears, and there are no longer white evacuations, or difficulty in the functions of the bowels. In two or three of these cases, in the first place ice was applied to the head; but this remedy is better adapted to the determination of blood to the organ of the brain in mania, where blood-letting cannot, without danger, be had recourse to. It undoubtedly exists where melancholy intermits with paroxysms of violence. There is another remedy which may be employed,—though I have less often used it, from the inconvenience of its adoption *regularly*, day by day, in this large town—the *tepid bath*. It is, however, very useful in melancholy, especially in that arising in the puerperal state, and in women generally.

"On the first attack of this malady, *purgatives* may be used actively, to remove any obstruction in the bowels, and promote a free flow of the secretions; but in fixed cases, in my experience, purgatives (so called) do harm; they disturb the system, and lower the health of the patient. Hence they may be confined to regulate the state of the bowels, so that they may be relieved, at the least, every alternate day."

[In addition to the above remedies, we place great reliance on the occasional employment of emetics at bed-time, in the early stages of melancholia.]

IV. PUERPERAL INSANITY.

From an elaborate paper by Dr. Read* on this form of mental disease, we extract the following remarks on the treatment.

"The opinion," he says, "of the great majority of those who are in the habit of seeing puerperal mania is, that it does not depend on inflammation of the brain, but that its origin may be fairly traced to *cerebral irritation*, combined with great exhaustion of the nervous system generally."

55. "*Bleeding*.—From what experience I have had on this subject, I fully adhere to Dr. Gooch's opinion, that 'blood-letting is not only seldom or never necessary, but generally almost always pernicious.' I cannot recollect a case of *uncomplicated* puerperal mania in which the lancet was used; and in the most violent forms of the complaint, a few leeches to the head have been alone employed for the purpose of local depletion. Cases have been narrated both of this disease and of delirium tremens, in which a small bleeding from the arm has been followed by speedy dissolution."

56. "*Emetics* have been strongly recommended when the tongue is loaded and freshened nature with all his wonderful power. Thus, after weariness and despair, he adds—

"Yet unwelcomely early as the tones came, they awakened him a different being in strength and spirit from what he had fallen asleep. Confidence in himself and his fortunes returned with his reviving spirits, and with the rising sun, he thought of his love no longer as a desperate and fantastic dream, but as a high and invigorating principle to be cherished in his bosom, although he might never propose to himself, under the difficulties with which he was beset, to bring it to any prosperous issue." (Quentin Durward, vol. ii. p. 145.)

* The Journal of Psychological Medicine and Mental Pathology, Nos. 1 and 2, Art. Puerperal Insanity. January and April, 1848.

the breath foul, at the commencement of the attack. A combination of ipecacuanha, with antimony, appears to be the best form when there is not great debility or anæmia."

57. "*Purgatives*.—Every obstetric practitioner of experience must be aware how frequently a whole train of alarming symptoms occurring a few days after childbirth, and resembling the primary ones of puerperal fever, is at once subdued by an active aperient or by a turpentine enema, which rids the patient of copious and vitiated dejections; the same good result has often been found from their employment in puerperal mania. Large evacuations of this kind are in fact sometimes the first symptoms of recovery in the patient. Even in cases of unusual exhaustion, constipation should at least be avoided, and the bowels may be unloaded by means of gentle aperients and enemata of warm water. The form of the aperient will, of course, vary according to the nature of the case and the condition of the patient. I have found ʒj of the pulvis jalapæ compositus, given in treacle as an electuary, answer the purpose very well in several cases, and this may be repeated at intervals if required. Dark fetid evacuations are often dislodged; and many instances might be cited in which great improvement was immediately a consequence. Should there be a wish to get rid of the secretion of milk as soon as possible, the hydragogue aperients will be best adapted for the purpose."

58. "*Anodynes*.—Almost all authors on this subject recommend the employment of this class of medicines, taking the precaution previously of properly evacuating the bowels.

"Opiates seem peculiarly adapted to puerperal cases, especially when combined with some diffusible stimulus, such as ammonia, and more especially with camphor. Small doses of opium will, in many cases, increase irritability instead of allaying it; and it is a better plan in general to administer a large dose at night, and the effect may afterwards be kept up by repeated but smaller doses. The acetate or muriate of morphia in quarter-grain doses may be given at intervals; but I have frequently known half a grain, and even one grain, given at short intervals, in otherwise intractable cases, with good effect; and this has been increased by combining with the morphia half-grain doses of the antimonii pot. tartrat. Dover's powder is another form of similar combination, which often proves a valuable remedy. An occasional change in the anodyne is advisable in those cases which require the daily exhibition of such a remedy. Thus half a grain of muriate or acetate of morphia may be administered at one time, a drachm of tinct. hyoscyami at another, and ten grains of Dover's powder on a third occasion; thus varying the form when the repetition of the same medicine seems to diminish its effect. There are instances in which opium, in any shape, gives no relief in procuring sleep, but, on the contrary, appears to aggravate the insomnia and irritability. In one such case, I found the employment of the hydrocyanic acid attended with the most beneficial effects. Five-drop doses of the diluted acid in camphor julep, at intervals of four hours, were administered to the lady, and gradually procured a calm state of mind, and some refreshing repose. The cannabis indicus, or Indian hemp, has been known frequently to succeed in procuring rest, after the different preparations of opium had failed; the tincture is the best form, and is employed in doses of from twenty to sixty drops. As it is a great object to break the continuance of the sleeplessness, in such cases the continual use of the chloroform vapour will be found valuable. I have had an opportunity of seeing more than one case in which it not only induced sleep, which had previously been absent for four or five nights and days, but the patient on recovering from its effects was found to be quite tractable, and free from violence. I am bound, however, to add, that in some cases in which it has been tried by other practitioners, no beneficial effect was produced.

"As a sedative application, the employment of the warm and tepid bath has been found of great service in cases of puerperal mania; it allays the great irritability, causes the skin to perform its functions more healthily, tends to restore the secretions to a proper state, and soothes the patient. Iced lotions to the heated scalp may be applied at the same time. Many authors speak most highly of the effects produced on females by the use of such baths, especially when any suppression has occurred. In some cases, the cold bath, the shower-bath, and the practice recommended by Dr. Currie, viz., placing the patient in an empty bath,

and pouring water on the head, have been attended with marked benefit. In all these forms it is better, however, to commence with the water tepid, and gradually to lessen the temperature in the succeeding applications. Numerous instances exist in which the tonic effect of the shower-bath has produced excellent results, but it has been employed at a period some weeks after parturition. When the patient exhibits great watchfulness and inability to sleep, notwithstanding the employment of all sedatives, and this is combined with unusual irritability of manner and quick pulse, the case requires our most anxious attention, and every method possible to allay such excitement should be in succession tried. The room should be darkened, and kept perfectly quiet and cool; the covering on the bed should not be more than is sufficient; a mattress should be substituted for the feather-bed, if the latter be used; and it is most essential that a nurse endowed with good sense and experience should be in attendance."

59. "*Counter-irritation* is sometimes of considerable advantage under such circumstances, and a blister to the spine or dry cupping over that part will sometimes produce excellent effect. Esquirol speaks very favourably of blisters in the later stages of this form of insanity, when applied between the shoulders.

"In the *adynamic* form, attendant upon *undue lactation*, it is especially requisite to avoid any depletion or low diet. Sedatives are as important as in the other cases; and in addition to these, the use of tonics, such as quinine, bitter infusions with the mineral acids, the various preparations of iron, the moderate use of wine and beer, and, if possible, after a time a change to the invigorating breezes of the seaside or a quiet village, will be advisable. One of the best means of lessening the irritability of the brain and the want of sleep, is shaving the head, and a persevering employment of refrigerant lotions to that part."

V. GENERAL PARALYSIS OF THE INSANE.

60. "General paralysis," say the Commissioners in Lunacy, "has been almost invariably thought to be hopeless of recovery, and its victims usually perish within two or, at least, three years from the commencement of the disease. . . . Most of the medical officers who have had great experience in the treatment of general paralysis, recommend, especially in the early stages, the use of all those means which are generally adopted with the intent of reducing too great vascular fullness in the head. They advise shaving the head, the application of leeches to the head or neck, cupping-glasses to the neck, repeated blisters on the head or neck, setons in the neck, and the use of mercury and purgative medicines. Patients labouring under general paralysis are well known to be liable to paroxysms which resemble epileptic fits, and which often terminate fatally. In these instances recourse is generally had to topical bleeding by cupping-glasses. [In all cases of general paralysis, even while these depletory measures are being used, a stimulating diet will be found necessary.]

"In the later stages of general paralysis, there is not only a loss of the powers of animal life, locomotion, articulation, and of command over the sphincters, but the tone of the blood-vessels and the vitality of the solid parts are greatly reduced, a great tendency to sloughing, especially over the sacrum, exists, and extensive ulcerations further undermine the strength, and tend to bring on dissolution. To obviate these evils in some degree care is requisite. The use of hydrostatic beds is often resorted to."

[These Reports will be continued as occasion demands.—Ed.]

NOTE to § VIII., No. 41, "*Chemical Pathology of the Blood*" (p. 403).—Since writing this Report, we have received Mr Sheppard's "*Observations on the Proximate Cause of Insanity*," London 1844; the perusal of which has increased the surprise we have already expressed (foot-note, p. 403) that Dr. Burnett, in his essay "*Insanity Tested by Science*," &c., London 1848, should appear to imagine himself to be the originator of the theory that insanity may be a disease seated in the blood, and that his work should contain no mention at all of Mr. Sheppard's *earlier* publication on the *same subject*.

BOOKS RECEIVED.

1. *Practical Observations on Midwifery and Diseases incidental to the Puerperal State.* By Drs. M'Clintock and Hardy. Dublin. pp. 368.
2. *Pocket Dispensatory.* By John Mayne.
3. *The Philosophy of Animated Nature.* By Dr. Calvert Holland. pp. 512.
4. *British Cholera, its Nature and Causes.* By Spencer Thomson, Esq. pp. 110.
5. *The Recent Advances in the Physiology of Motion, &c.* By Drs. Baly and Kirkee. pp. 132.
6. *Insanity Tested by Science.* By Dr. Burnett. pp. 106.
7. *On Stomach and Renal Diseases.* By Dr. Prout. 5th edit. pp. 596.
8. *Treatise on Diet and Regimen.* By Dr. Robertson. Vol. II, pp. 361.
11. *History, Description, and Statistics of the Bloomingdale Asylum for the Insane.* By Dr. Pliny Earle. pp. 136.
12. *Report of the Pennsylvania Hospital for the Insane, 1847.* By Dr. Kirkbride. pp. 46.
13. *The Twenty-Seventh Annual Report of the Bloomingdale Asylum.* By Dr. Pliny Earle.
14. *On Functional Diseases of the Liver, associated with Uterine Derangement.* By Dr. Butler Lane. pp. 32. (*In our next.*)
15. *An Essay on the Epileptic Form of Puerperal Convulsions.* By Joseph Thompson, M. R. C. S., pp. 74. (*In our next.*)
16. *Ununited Fracture healed by Subcutaneous Puncture.* By James Miller, F. R. C. S. E. pp. 8.
17. *Essays on Diseases of the Nervous System.* By Dr. Marshall Hall. pp. 71.

PAMPHLETS AND REPRINTS.

1. *Ventilation Illustrated.*
2. *Treatment of Chronic Inflammation in the Bladder by Injections of Nitrate of Silver.* By Dr. M'Donnell. pp. 12.
3. *The Cholera not to be Arrested by Quarantine.* By Dr. Gavin Milroy. pp. 51.
4. *Remarks on the Conduct and Duties of Young Physicians.* By Dr. Simpson. pp. 23.
5. *Microscopic Anatomy.* By Mr. Hassall. Parts X., XI., XII.
6. *On Inhalation of Chloroform.* By Dr. Snow.
7. *Answer to the Religious Objections to the Induction of Anæsthesia in Midwifery.* By Dr. Simpson. pp. 24.
8. *On Foreign Bodies in the Air-Passages.* By Dr. Mason Warren. pp. 68.
9. *Etherization, with Surgical Remarks.* By Dr. John C. Warren. pp. 100.
10. *Observations on the Cultivation of Organic Science.* By Richard Grainger. F. R. S. pp. 60.

IN EXCHANGE.

British and Foreign Medico-Chirurgical Review. (Jan. April, 1848.)
 Dublin Quarterly Journal of Medical Science. (Feb., May.)
 Monthly Journal and Retrospect of Medical Science. (Jan., Feb., March, April, May, June.)
 American Journal of the Medical Sciences. (Jan., April.)
 British American Journal. From Jan.
 Boston Medical and Surgical Journal. From January.
 Philadelphia Medical Examiner. From January.
 Medical Times. From January.
 Journal of Psychological Medicine. (Jan., April.)
 British Record of Obstetrical Medicine and Surgery. (*From the commencement.*)
 Pharmaceutical Journal. (Dec., Jan., Feb., March, April, May, June.)

INDEX TO VOL. VII.

	PAGE
Abortion, induced by cutaneous irritation	265
causes of	133
Abscess of the neck, fatal hemorrhage from	126
of the tongue, fatal case of	131
of the tibia	222
Aeonite, external application of, to ulcers	106
Aeonite, poisoning by	293
Adansonia, digitata	190
Alæ nasi, restoration of	124
Albuminuria, independent of renal disease	76
Alcohol, test for small quantities of	299
Aldehyde	197
ALEXANDER, Dr., case of wound of the heart	308
ALLAN, Mr., case of monstrosity	278
Alkaline urine	186
Amaurosis, from a wound of the fifth pair	249
Ammonia, phosphate of, in gout and rheumatism	72
Amputation, results of under anæsthesia	205
Amygdalitis, chronic	70
Anæsthesia, in ophthalmic affections	268
results of amputations under	205
objections to, in midwifery, answered	252
testimony in favour of, in midwifery	254
Anæsthetic agents	191
value of in operations	205
ANDERSON, Dr., case of poisoning by strychnine	292
ANDRAL, M., lectures by, on the semeiotics of the nervous system	25
of the respiratory system	37
of the circulating system	51
of the chylipoietic system	65
of the renal system	74
Aneurism of the aorta, physical signs of	61
of the arteria innominata, spontaneous cure of	94
of the subclavian artery, cured by galvano-puncture	107
of the axillary artery	112
of the innominata, treated by pressure	215
of the popliteal artery, cured by compression in four days	119
dissecting, case of	181
Antidotes, review of	298
Antimony, poisoning by the salts of	289
Aorta, physical signs of aneurism of	61
Aphonia, inhalation of benzoin in	46
Apoplexy, and cerebral softening, differential diagnosis of	172
treatment of	33
ARNOTT, Dr., on the therapeutical power of heat and cold	209
Arsenic, poisoning by	282
magnesia as an antidote	285
detection of	286
in the bones of the skeleton after ten years	ib.
in the urine, and serum of blisters	ib.

	PAGE
Arsenic spots, new mode of distinguishing	287
Arsenite of copper, poisoning by	288
Arteria innominata, statistics of ligature of	212
aneurism of, treated by compression	215
spontaneous cure of	94
Artificial pupil, operations for	232
Ascites, treatment of by iodine injections	185
Asparagine	190
Asthma, chloroform in	50
Asylum, construction of lunatic, general remarks on	323
advantages of, to the insane poor	322
Atalectasis pulmonum	160
Auscultation, alphabet of	43, 174
BADLEY, Dr. , on acetate of lead in tympanitis	71
BALLARD, Dr. , case of gelatiniform cancer of the peritoneum	184
BARHAM, Dr. , case of poisoning by oxalic acid	282
BARLOW, Dr. , on the etiology of heart disease	180
BARROW, Mr. , case of poisoning by cannabis indica	294
BAUDIN, M. , on death from eschars on the sacrum	94
BEATTY, Dr. , on retroflexion of the womb	138
BELL, Mr. , on the treatment of cholera	21
BELLINGHAM, Dr. , on the cause of the "bruit de diable"	182
BENNETT, Dr. HUGHES , on the medicinal action of cod-liver oil	200
Benzin	197
Benzoin, inhalation of, for aphonia	46
BIRD, Dr. GOLDING , on poisoning by aconitina	293
BISHOP, Dr. , on large doses of quinine in tetanus	35
BLACK, Dr. , on the treatment of cholera	21
Bladder, irritable, from the presence of tapeworm	77
chronic inflammation of, treated by injections of nitrate of silver	120
BLAKISTON, Dr. , notice of a work by	174
on acute and chronic pleurisy	175
on pneumonia and phthisis	ib.
on thoracic aneurism	178
on chronic heart disease	ib.
Bleeding, effect of on the sight	247
from leech-bites, mode of arresting	210
Blood, detection of, on the clothes	311
chemical pathology of, in insanity	335
BONNET, M. , on restoration of the alæ nasi	124
BOTTOMLEY, M. , on an epidemic fever at Croydon	166
BREE, Mr. , on an epidemic fever	166
Bronchitis, chronic, iberis amara in	201
BROWN, Mr. , on the advantages of chloroform in midwifery	255
BROWNVILL, Mr. , case of spontaneous rupture of the uterms before labour	144
"Bruit de diable," cause of	182
BRYAN, Dr. , on purulent discharge from the ears	231
BURNETT, Dr. , on insanity a blood disease	335
Burns, after death	305
Cæsarean operation, cases of	272
Camphor, poisoning by	294
new mode of dissolving	189
Cannabis indica, poisoning by	294
Cantharides, poisoning by	296
Cancer of the uterus simulated by a piece of sponge	145
Capsicum embrocation in cholera	24
Capsulitis	236
Carbon, bisulphuret	197

	PAGE
Carbonic acid, poisoning by	294
Carotid artery, statistics of ligature of	212
Cataract, varieties of	236
lenticular and capsular diagnosis of	238
treatment of	ib.
congenital, cured without operation	239
operation for, statistics of	245
Catberry, actual, in neuralgia	36
Cerebral ventricles, inflammation of the lining membrane of	172
Cervix uteri, elongation of	257
amputation of	259
cancer of, simulated by a piece of sponge	145
CHANDLER, Mr., on chloroform in asthma	50
CHELIUS, Professor, on ligature of the vertebral artery	127
Chest, wounds	123
Children, diseases of	278
Chloride of hydrocarbon	197
Chloroform, in typhus fever	25
in asthma	50
preparation of	192
physiological action of	193
action of, on the blood	ib.
on animal heat	194
fatal cases from	ib.
therapeutic action of	197
and ether, comparison of	204
in midwifery, objections to answered	253
favorable evidence respecting	254
in insanity	341
Cholera, treatment of	17
in the stage of collapse	22
capsicum embrocations in	24
Dr. Parkes on	169
Dr. Gavin Milroy on	171
CHOMEL, M., on delirium in pneumonia	49
on post-puerperal metritis	277
Chorea, tartar emetic in	35
Choroid, diseases of	246
CHOWNE, Dr., case of poisoning by sulphuric acid	280
CHURCHILL, Dr., case of vomiting during pregnancy—artificial induction of labour	264
Ciliary body, diseases of	266
CLARK, Mr., on the power of elasticity applied to surgery	209
Clavicle, fracture of	112
Cod-liver oil in phthisis	177
medicinal action of	200
Coffee as an antidote to poisoning by opium	290
Cold, therapeutical action of	209
COLEY, Dr., on preternatural elongation of cervix uteri	257
on lymphatic tumour of the breast	255
Colon, ulceration of, from calculus	70
CONOLLY, Dr., on the construction of lunatic asylums	322
Convulsions, of infancy	169
puerperal, chloroform in	255
COPEMAN, Dr., case of spontaneous evolution	270
Copper, poisoning by	289
impregnation of water with	ib.
existence of, as a normal constituent of the body	ib.
Cordæ tendinæ, rupture of	181
Corectopia	235

	PAGE
CORFE, Mr., on the treatment of delirium tremens without opium	33
on the external use of croton oil in facial paralysis	36
on auscultation	43
on a new sign of emphysema	51
case of poisoning by sulphuric acid	280
COTTON, Dr., on molluscum contagiosum	187
CRANIOTOMY, turning a substitute for	275
CROUP, tracheotomy in	178
CRYSTALLINE lens, diseases of	236
CURLING, Mr., on chloroform and ether	204
CUSACK, Mr., case of popliteal aneurism cured by compression	119
DAVIES, Dr., on the fallacy of the lung-test	299
Delirium in pneumonia	49
Delirium tremens, inhalation of ether in	34
treatment of without opium	33
DESMARRÉS, M., on the operations for artificial pupil	232
on cataract and its operations	240
on choroiditis	246
DICK, Dr., on the treatment of flatulence	71
DIEFFENBACH on operation for pes equinus	100
Digestive system, semeiotics of	65
Dislocation of maxilla, differential diagnosis of	84
of cervical vertebrae, reduced on the seventh day	102
of the patella on its edge	125
of the head of the radius, reduced after two years	222
Doubtful sex, cases	312
DUMERIL, M., on the effects of ether and chloroform on animal tempera- ture	194
DUVAL, M., on the altered position of the pupil	235
on the effects of bleeding on the sight	247
Ear, statistics of disease of	224
purulent discharges from	231
EDWARDS, Dr., on phosphate of ammonia in gout and rheumatism	72
case of spontaneous evolution	270
Elephantiasis scroti, case of	132, 187
Emphysema, of the lungs, new sign of	50
general, rare case of	128
Epilepsy, theory of	172
treatment of, by tartar-emetic frictions to the scalp	174
Ergot, exhibition of, in tedious labours	267
Ether, inhalation of, in delirium tremens	34
in tetanus	36
fatal cases from	191
general effects of	192
in feigned diseases	301
Exostosis of the tibia	119
Extra uterine foetation, cases	265
FAVROT, M., on a new method of applying a ligature to polypus uteri	257
Feigned diseases, ether in	301
Fever, typhus, laryngotomy in	24
use of chloroform in	25
epidemics of	165
intermittent, cold-water treatment of	168
puerperal	276
FINGER, Dr., on albuminuria independent of renal disease	76
FLAMM, Dr., cases of retroflexio uteri	261
Flatulence, treatment of	71
Fœtal movements, so called, proved to be uterine	262

	PAGE
FLOTZ, M., on scurvy	165
Fracture, in the vicinity of joints	80
of the forearm	81
of the humerus	83
of the clavicle	84, 112
of the neck of the femur, diagnosis of	217
of the parietal bones, medico-legal question	300
treatment of	219
ununited, healed by galvanism	104
seton	221
badly united, healed by resection of the fractured ends	ib.
FRAZER, Dr., on the treatment of cholera	22
FRAZER, Mr., on the analogy between glanders and diffuse cellular inflammation	169
Frontal sinuses, headache from inflammation of	33
Galvanism, in ununited fractures	104
use of, in surgery	211
Galvano-puncture, case of subclavian aneurism cured by	107
GARROD, Dr., on scurvy	165
Glanders and diffuse cellular inflammation, analogies of	169
Glottis, spasm of, in the adult	44
in the infant	153
œdema of	216
Godfrey's cordial, poisoning by	290
GOODMAN, Mr., case of Cæsarean operation	272
GOLDING, Dr. RAY, on the physical signs of aneurism of thoracic aorta	61
on kieselstein as a sign of pregnancy	263
GOSSET, Mr., case of tedious labour from ossification of the cranial bones	267
Gout, phosphate of ammonia in	72
GRANTHAM, Mr., on the external application of aconitum napellus to ulcers	106
GUTHRIE, Mr., on the treatment of wounds of the chest	123
on the sympathies of the iris	247
HALL, Dr. MARSHALL, on the theory of spasmo-paralysis	147
on the convulsive affections of infancy	149
on the theory of epilepsy	172
HARRIS, Dr., case of doubtful sex	312
Headache, on certain forms of	31
from inflammation of the frontal sinuses	33
Heart, chronic disease of	179
enlargement of the, causes of	180
Hemorrhage, treatment of	101
from leech-bites, means of arresting	210
from excision of the tonsils, means of arresting	215
after extraction of the lens	247
uterine	268
Hemorrhagic diathesis, turpentine	118
Hemorrhoids, operation for internal	224
HENSLEY, Mr., on retroflexion of the uterus	136
Hernia humoralis, punctures of the scrotum in	106
HETLEY, Mr., case of poisoning by arsenite of copper	288
HITCHCOCK, Dr., case of retained placenta	271
Homicide, culpable	313
HOPKINSON, Mr., case of tetanus cured by inhalation	36
Humerus, fracture of	83
Hydrocephalus acutus, treatment of	151
Hydrocyanic acid, poisoning by	291
Iberus amara, in chronic bronchitis	201

	PAGE
Ice, use of, in exhausting diseases	201
IMAGE, Mr., case of enormous enlargement of the left mamma	96
Imperforate vagina—labour	265
Infants, constitutional syphilis of	79
convulsive affections of	149
diagnostic value of tears in	161
Infanticide, fallacy of the lung-test	299
Insane, number of, in England and Wales	19
proportion of, in different classes	ib.
cost of	ib.
former conditions of asylums for the	317
results of treatment of the	318
employment and recreation of the	324
clothing and diet of	325
religious services of the	326
general paralysis of the	345
Insanity, consciousness of right and wrong, a test of	301
plea of, in criminal cases	303
moral	302
forms of	314
circumstances influence the treatment of	319
influence of, on life	321
liability to recurrence of	322
relative liability of the sexes to	ib.
on restraint in	326
diagnosis of	327
feigned, detection of	328
incubation of symptoms	330
morbid anatomy	332
chemical pathology of the blood in	335
medical treatment of	338
puerperal, treatment of	343
Intestinal obstruction	183
Inversio uteri, reduction of after 16 months	140
Iodide of potash, injurious effects of	189
Iodized oil	201
Iris, sympathies of	247
Iron, persesquinitrate of, in diarrhœa	188
potash, tartrate of	ib.
JACKSON, Mr., on fatal hemorrhage from an abscess in the neck	126
JAEGER, Dr., on the statistics of the operation for cataract	245
JAMIESON, Dr., on œdema of the glottis, from drinking boiling-water	216
JONES, Dr. BENCKE, on the urine in the insane	434
JONES, Dr. C. HANDFIELD, on prostatic concretions	88
KERR, Mr., on the persesquinitrate of iron	188
Kidneys, on the inflammatory diseases of the	185
Kiëstein, as a test of pregnancy	263
KING, Dr., on the treatment of cholera	23
KRAMER, Dr., on diseases of the ear	224
Labour, natural	266
tedious	ib.
from ossification of the cranial bones	267
use of the binder in	266
premature induction of, new plan	265
preternatural	268
Lachrymal gland, removal of	215
LALOR, Dr., on an epidemic fever at Kilkenny	167

	PAGE
Large intestine, aphthæ of the lower part of	224
Laryngotomy in typhus fever	24
Larynx, ossification of the cartilages of	177
Lead, impregnation of water with	268
Leech-bites, bleeding from	210
LEGRIE, M., on the existence of copper as a normal constituent of the body	269
LETHEBY, Dr., on poisoning simulated by death from natural causes	297
on detection of poison in the urine	298
on poisoning by turbith mineral	288
Lithotrixy	222
Lycopus Europæus, a substitute for quinine	190
LYON, Mr., case of ligature of the common iliac artery	215
case of aneurism of arteria innominata treated by pressure	ib.
M'CLINTOCK and HARDY, Drs., on natural labour	266
on the treatment of after-pains	ib.
on tedious labour	ib.
on the treatment of rigid os uteri	ib.
on ergot in tedious labour	267
on the conditions requiring the use of the vectis and forceps	ib.
on preternatural labour	268
on accidental and unavoidable hemorrhage	ib.
on opium in	269
on hemorrhage after delivery	ib.
on spontaneous evolution	270
on retained placenta	271
on diagnosis and treatment of rupture of the uterus	ib.
on puerperal fever	276
M'DOUGAL, Mr., on urethral discharges	85
on spermatorrhœa	223
Magnesia an antidote to arsenic	285
Mamma, enormous enlargement of	96
abscesses of	113
Mania, treatment of	339
suicidal	306
MARCHAL (de Calvi), case of paralysis of the third pair of nerves from neuralgia of the fifth	269
MAYER, Dr., case of Cæsarean operation	275
MCGIBSON, Mr., on a fatal case from chloroform	195
Melancholia, treatment of	242
Menstruation in an infant, case	279
Mental pathology	337
Metritis, post-puerperal	277
MILROY, Dr. GAVIN, on the treatment of cholera	171
MITCHELL, Dr., case of simulated cancer of the womb	145
on a case of uterine polypus	257
Molluscum contagiosum	187
Monomania	301
Monstrosity, remarkable case of	278
Morphia, poisoning by	290
mode of detecting	291
Mortification of the lower extremity, rare case	128
Murder, by pouring melted lead into the ear	310
MURPHY, Dr., on certain forms of headache	31
on chloroform and ether in midwifery	254
Muscular action, therapeutical powers of	210
surgical relations	90
Myringitis, syphilitic	93

	PAGE
Scrotum, puncture of, in hernia humoralis	109
elephantiasis of, case	132
Scurvy, deficiency of potash in the blood	165
SHEDDEN, Mr., on exostosis of the tibia	119
retroversion of the uterus at the sixth month	265
SECOND, Mr., on ossification of the laryngeal cartilages	177
Seton, in the treatment of ununited fracture	222
SEWELL, Dr., case of poisoning by prussic acid	291
SETMOORE, Dr., Treatment of melancholia	342
SHEPPARD, Mr., on insanity	335, 345
SIMON, Mr., on chloroform	206
SIMON, Mr., on subacute nephritis	186
SIMPSON, Dr., on the fatal case at Newcastle	195
on various anæsthetics	197
statistical inquiry into the results of anæsthesia in amputations	205
answer to religious objections to the induction of anæsthesia in labour	252
on retroflexion of the uterus	250
on turning as a substitute for craniotomy	275
Skin diseases, works on	186
danger of repelling	ib.
Smallpox and scarlatina, coexistence of	171
SMITH, Dr., on fractures in the vicinity of joints	80
on the diagnosis of dislocations of the maxilla	84
on the diagnosis of fracture of the neck of the femur	217
on Colles' fracture	220
on the fracture of the humerus	ib.
SMITH, Dr. TYLER, on the causes of abortion	133
on the objections to the induction of anæsthesia in labour	253
on the so-called fetal movements	262
SMITH, Dr. PROTHEROE, on retroflexion of the uterus	250
SNAPE, Mr., on ulceration of the colon	70
SNOW, Dr., on the physiological action of chloroform	193, 204
on the fatal case at Newcastle	196
SODEN, Mr., on hemorrhage after extraction of the lens	247
SOLLY, Mr., on the treatment of apoplexy	83
SOUTHAM, Mr., case of elephantiasis	167
Spasm of the glottis	44, 132
Spasmo-paralysis, theory of	147
Spermatic discharges, treatment of	114, 223
Spontaneous evolution, cases	270
combustion	311
STARK, Dr., dislocation of the radius reduced after two years	222
Starvation	311
Stramonium, poisoning by	294
Strychnine, poisoning by	292
Subclavian artery, ligature of	112
fatal hemorrhage from	126
Sudden death	530
Suffocation, cases of	305
Superfetation cases	264
Surgery, employment of the powers of elasticity in	200
anæsthesia in	203
Survivorship	304
SWIFT, Dr., on wounds of fire-arms without ball	307
SYLVESTER, Dr., on the iberis amara	201
SYME, Prof., case of ligature of the subclavian artery	112
Syphilis, constitutional, in the infant	79

	PAGE
Tapeworm, irritable bladder from	77
Tartar emetic, in chorea	35
in pneumonia	47
TAVERNOR, M., successful operation for artificial pupil under unusual circumstances	235
Tears, diagnostic value of in infancy	161
Tendons, painful crepitation of	94
Tetanus, case cured by large doses of quinine	35
ether inhalation	36
successful case	174
Tibia, exostosis of	119
abscess of	222
THURNAM, Dr., on the statistics of insanity	318
on the results of treatment of insanity	ib.
TODD, Dr. BENTLEY, case of rupture of the cordæ tendinæ	184
Tonsils, treatment of indurated	70
means of arresting hemorrhage from, after excision	215
TOMKINS, Mr., case of poisoning by nitric acid	281
Tracheotomy in croup	178
Transfusion, successful case of	141
TRINQUIER, M., on the therapeutics of muscular exercise	210
TROUSSEAU, M., on constitutional syphilis in the infant	79
on the diagnostic value of tears, in infancy	161
TUFFNELL, Mr., case of irritable bladder from tapeworm	77
Tumour, enormous erectile, of the breast	96
lymphatic, of the breast	255
Turning, a substitute for craniotomy	276
Turpentine, in the hemorrhagic diathesis	118
Tympanitis, acetate of lead in	71
Ulcers, external application of aconite to	106
Unavoidable hemorrhage, successful case of transfusion in	141
UPHAM, Dr., on ether inhalation in delirium tremens	34
Urethral discharges, diagnostic characters of	85
Uterine hemorrhage	269
Uterus, retroflexion of	136
ulceration of the lining membrane of	139
inversion of, reduction after sixteen months	140
antero-version of, during labour	142
spontaneous rupture of, during labour	144
cancer of, simulated by a piece of sponge	145
prolapse of, new forms of pessary for	258
internal pessary for retroflexion of	261
polypus of, new mode of applying a ligature to	257
retroversion of, at the sixth month	265
rupture of	271
Urine, detection of poison in	298
in the insane	334
Varicocele, treatment of	105
VELPEAU, M., on puncture of the scrotum in hernia humoralis	106
on painful crepitation of the tendons	94
on fracture of the clavicle	112
on the treatment of mammary abscesses	113
Venereal disease, origin of	91
Vertebral Artery, ligature of	127
VIDAL, M., on operations performed at intervals	207
VINCENT, Mr., on the surgical relations of associated muscular action	90
on the treatment of hemorrhage	101
on the treatment of onychia	112

	PAGE
VINCENT, Mr., on turpentine in the hemorrhagic diathesis	118
on the treatment of prolapsus ani	123
on the treatment of dislocation of the patella on its edge	125
observations by, on surgery as a science	202
on arresting the bleeding from leech-bites	210
on the treatment of fracture of the neck of the femur	219
Vomiting during pregnancy, cases	264
WALLACE, Dr., on removal of the parotid gland	116
WALLER, Dr., on a successful case of transfusion in uterine hemorrhage	141
WARD, Dr. OGIER, on the treatment of the collapse stage of cholera	22
on a case of fatal abscess of the tongue	131
WARDELL, Dr., on spasm of the glottis in the adult	44
WATSON, Dr. A., on the surgical treatment of cataract	239
WEST, Dr., on the treatment of acute hydrocephalus	151
on spasm of the glottis in infancy	153
on infantile phthisis	156
on infantile pleurisy	157
on atelectasis pulmonum	160
on tracheotomy in croup	173
WHARRIE, Dr., on a case of fracture of the parietal bone	300
WILDE, Mr., on acute myringitis	85
on chronic myringitis	87
on syphilitic myringitis	93
WILLEMIN, Dr., on post-puerperal metritis	278
WILSON, Mr. ERASMUS, notice of works by, on disease of the skin	186
WEHART, Dr., spontaneous cure of aneurism of the arteria innominata	94
WINSLOW, Dr. FORBES, on the incubation of insanity	312
Wounds, of fire-arms without ball	307
lacerated, of internal organs	308
of the heart, case	ib.
other instances of	309
of the chest, treatment of	123
YEARSLEY, Mr., notice of work by, on disease of the ear	331

HALF-YEARLY ABSTRACT
OF THE
M E D I C A L S C I E N C E S .
JULY—DECEMBER,
1848.

LIST OF BRITISH AND FOREIGN PERIODICALS REFERRED TO IN THE "HALF-YEARLY ABSTRACT."

BRITISH.

British and Foreign Medico-Chirurgical Review.
Medico-Chirurgical Transactions.
Edinburgh Medical and Surgical Journal.
London and Edinburgh Monthly Journal.
Dublin Quarterly Journal of the Medical Sciences.
Lancet.
Medical Gazette.
Provincial Medical Journal.
Medical Times.
Dublin Medical Press.
Bell's Pharmaceutical Journal.
Guy's Hospital Reports.
Chemical Gazette.
British Record of Obstetrical Medicine and Surgery.

AMERICAN.

American Journal of the Medical Sciences.
Philadelphia Medical Examiner.
New York Journal of Medicine.
Boston Medical and Surgical Journal.
Southern Medical and Surgical Journal.
British American Journal of the Medical Sciences.

FRENCH.

Annales de Chirurgie.
" d'Hygiène.
" de Chimie et de Pharmacie.
" des Maladies de la Peau.
" Thérapeutiques.
Archives Générales de Médecine.
Bulletin des Académies.
Encyclographie Médicale.
" des Sciences Médicales.
Journal des Connaissances Médico-Chirurg.
Gazette des Hôpitaux.
" Médicale.
Journal de Chirurgie de M. Malgaigne.
Revue Médicale.
Journal de Chimie Médicale.
Journal de Chimie et de Pharmacie.

GERMAN.

Schmidt's Jahrbücher.
Zeitschrift für die Gesamte Medicin.
Müller's Archiv für Anatomie, &c.
Liebig's Annalen der Chemie und Pharmacie.
Canstatt's Jahresbericht.
Buchner's Repertorium.
Haller's Archives für Physiolog. und Patholog. Chemie.
Casper's Wochenschrift.
Poggendorff's Annalen.

N. B.—Every periodical here specified is consulted directly by the Editor and his coadjutors.

THE
HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES:

A PRACTICAL AND ANALYTICAL DIGEST OF THE CONTENTS OF THE PRINCIPAL
BRITISH AND CONTINENTAL MEDICAL WORKS PUBLISHED
IN THE PRECEDING SIX MONTHS.

TOGETHER WITH

A SERIES OF CRITICAL REPORTS ON THE PROGRESS OF MEDICINE AND THE
COLLATERAL SCIENCES DURING THE SAME PERIOD.

EDITED BY

W. H. RANKING, M.D., CANTAB.,
LATE PHYSICIAN TO THE SUFFOLK GENERAL HOSPITAL.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.—CICERO.

NO. VIII.
JULY—DECEMBER, 1848.

PHILADELPHIA:
LINDSAY AND BLAKISTON.
1849.

NOTICE TO CORRESPONDENTS.

The Editor requests that all communications be forwarded (free) either to MR. CHURCHILL, Princes street, Soho, London, or to himself, addressed DR. RANKING, Norwich.

The Editor is compelled to remind his American correspondents that no parcels are taken in unless the entire charge is paid upon them.

PHILADELPHIA :

T. K. AND P. G. COLLINS, PRINTERS.

PREFACE.

WHEN, four years since, we ventured to seek for the "Half-Yearly Abstract of the Medical Sciences" a share of the approbation of the profession, it was not without many misgivings as to our own capabilities for the undertaking, as well as to the existence of a field for a new medical journal.

The fact that the first Volume commanded a large circulation, which has been subsequently increased, and has been maintained, in spite of the many circumstances which have recently depressed literary exertions, has convinced us that, on the latter point, our fears were groundless; and, as regards the former, we are proud to be able to state, that in addition to the evidence afforded by a large circulation, the receipt of numerous and entirely spontaneous testimonies of approbation from the most distinguished members of our profession in this and other countries, has satisfied us that our humble efforts for the diffusion of valuable information in a form acceptable to all practitioners have been kindly appreciated. It would be ungracious here not to acknowledge the valuable assistance afforded by our talented collaborators, Drs. Guy, Day, Kirkes, and Mr. Ancell, to whose admirable Reports we consider that we are much indebted for the estimation in which this work is held.

To turn from these to less agreeable reflections, we feel called upon to notice certain ill-natured remarks and insinuations on the part of a few of our cotemporaries. We do not think it necessary to defend the method upon which this work is conducted; it is sufficient to say, that we received the commendations of some of these parties, until it was found that our circulation interfered with their own, when they suddenly found something to condemn. That so many journals are now adopting the practice of giving "Abstracts" and "Reports," we take to be at least a tacit approval of our plan.

We have also to remark upon certain rather angry letters from parties complaining that we have passed over their contributions to other journals

without notice, thereby implying favouritism. This charge we utterly disclaim: but we beg once for all to state, that it has all along been our object, as it will be in future, to exercise the most irresponsible independence in our selections. We do not, however, in omitting to notice any particular essay, wish in the least degree to imply a want of merit therein.

The usual Reports on Anatomy and Physiology, &c., are unavoidably postponed to the next volume.

In conclusion, we beg cordially to thank the profession for the support which has placed this journal in the honourable position which it now enjoys.

W. H. R.

NORWICH, *December*, 1848.

CONTENTS.

PART I.—PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

SECT. I.—Zymotic Diseases.

ART.	PAGE
1 Treatment of Typhus Fever. By Dr. George B. Wood	17
2 On the Internal Use of Turpentine in Typhoid Fever. By the Same	20
3 Cholera, Treatment of, by Mr. C. E. Jenkins	21
" " Anonymous	ib.
" " Mr. Price Evans	22
" " Mr. Hancorn	23
" " Dr. R. Hall	24
" " Mr. Brady	25
" " Mr. Plimmer	26
" reported Specific for	27

SECT. II.—Diseases of the Nervous System.

4 On Nervous Influence and Derangement. By Dr. Henry Kennedy	28
5 Coma from retained Biliary Secretion. By W. H. Ranking, M.D.	31
6 Head Symptoms from Overloaded Bowels	ib.
7 Acute Chorea terminating fatally in sixteen days. By F. J. Brown, M.D.	32
8 Chorea treated successfully by Chloroform. By Mr. Harris	36
9 A Severe Case of Facial Neuralgia successfully treated by Creasote. By Thomas Kelly	ib.
10 Remarkable Case of Hysteria. By R. West	ib.

SECT. III.—Diseases of the Respiratory System.

11 Clinical Lecture on the Varieties of Pneumonia. By J. F. Duncan, M.D.	43
12 Emphysema of the Cellular Tissue following Hooping-cough. By U. Herapath	47
13 Case of True Pneumonic Abscess. By Dr. James F. Duncan	48

SECT. IV.—Diseases of the Chylopoietic System.

14 On Ulcerative and Gangrenous Stomatitis. By Dr. West	51
15 Treatment of Pyralism by a Concentrated Solution of Nitrate of Silver	56
16 Extraordinary Case of Biliary Concretions. By Edward Wilson Duffin, M.R.C.S.	ib.
17 On Gastrodynia and its Treatment. By Dr. Dick	ib.
18 On the Comparative Efficacy of certain Medicines in Dysentery, and other Intestinal-Fluxes of Hot Climates. By Dr. Papilland	58

SECT. V.—*Diseases of the Genito-Urinary System.*

ART.	PAGE
19 Pathology and Diagnosis of Bright's Disease. By Dr. James F. Duncan	60
20 Ergot in Retention of Urine	62
21 Liquor Potassæ in Strangury	ib.

SECT. VI.—*Diseases of Uncertain or Variable Seat.*

22 On the Proximate Cause and Treatment of Gout. By Anthony White	62
23 Treatment of Acute Rheumatism. By Dr. James Turnbull	67
24 Treatment of Acute Rheumatism by Nitrate of Potash	69
25 On the Remote Causes of Diabetes. By William Watts, M.D.	ib.
26 Clinical Remarks on Dropsy. By Mr. Corfe	71
27 Treatment of Anasarca and certain Dropsical Effusions, by Discharge of the Fluid by Cutaneous Incision. By M. Lombard	74

SECT. VII.—*Diseases of the Skin, &c.*

28 On the Eruptive Diseases of the Scalp. By Dr. Neligan	76
29 On the Treatment of Lupus by Cod-liver Oil. By M. Emery	77
30 Diagnostic Characters of Secondary Syphilitic Eruptions. By M. Ricord	78
31 Treatment of Acne Rosacea	80
32 Arsenic in Furunculus and Acne	ib.

PART II.—SURGERY.

SECT. I.—*Symptomatology and Diagnosis of Surgical Diseases.*

33 Diagnosis of Incomplete Fractures. By M. Debrun	81
34 Diagnosis of Injuries to Tendons and Ligaments. By J. P. Vincent, Esq.	ib.
35 Distinction between Syphilitic and Scrofulous Affections of Bone. By M. Ricord	82
36 Diagnosis of Congenital Dislocation of the Shoulder. By W. R. Smith, Esq.	ib.

SECT. II.—*Nature and Causes of Surgical Diseases.*

37 Dislocation of the Pelvis	83
38 Fracture of the Ascending Branch of the Isthmus and Descending Branch of the Pubis caused by Muscular Contraction. By M. Capelletti	ib.
39 Cases of Strangulated Hernia, in which the Stricture was occasioned by a Band of Lymph effused from the Serous Coat of the Intestine, surrounding and constricting it as by a ligature. By Dr. Pirrie	84
40 The Pathological Sequences of Myringitis. By James Mercer, M.D., F.R.C.S.E.	85
41 Summary of M. Ricord's Opinions on Venereal Diseases. By Victor de Meric, M.D.	91
42 Dynamics applied to Etiology in Surgery—Fractures of the Cranium—Hernia. By J. P. Vincent, Esq.	92

SECT. III.—*Treatment of Surgical Diseases.*

ART.	PAGE
43 Gastrotomy in Cases of Obstructed Oesophagus. By Professor Sédillot	94
44 Cantharization as a Remedy for Accidents resulting from Surgical Operations. By M. Bonnet	95
45 A New Mode of Treating Deafness when attended by Partial or Entire loss of the Membrana Tympani, associated or not with Discharge from the Ear. By James Yearsley, Esq.	98
46 On the Treatment of Gunshot Wounds. By M. Velpeau	101
47 The Treatment of Erysipelas with Nitrate of Silver Ointment	114
48 On the Prevention and Treatment of Bed-Sores. By Mr. Bernard	ib.
49 Collodion, a newly-discovered Adhesive Fluid, a Substitute for Sutures and Adhesive Straps	116
50 New Mode of Resection of the Bones. By Dr. Larghi	118
51 On the Necessity of Excision in Cancer of the Lip. By Charles Fluder	ib.
52 Treatment of Venereal Diseases. By M. Ricord	120
53 Enterotomy for the Relief of Obstructed Intestine from a Tumour at the Lower Extremity of the Sigmoid Flexure of the Colon. By B. M. A. Didot	122
54 Removal of a Foreign Body from the Duct of Wharton. By Dr. H. F. Campbell	123
55 The Treatment of Callous Ulcers. By James Syme	ib.
56 Contraction of the Muscles of the Legs, Feet; and Toes, probably resulting from a Rheumatic Affection—Consecutive Deformity of these parts—Care by Tenotomy and Orthopedic Apparatus. By M. Robert	124
57 Mode of Reducing Dislocations of the Humerus at the Bristol Infirmary	125
58 The Treatment of Aneurism by Compression—Corollaries. By Dr. Bellingham	ib.
59 Successful Amputation at the Hip-joint—Employment of Ether. By M. Henot	126
60 The Employment of Gutta Serena in Surgery—Its use in Club-foot, Simple and Compound Fractures, Necrosis, Amputations, Diseased Articulations, &c. By W. Lyon	ib.
61 On the Treatment of the Irritable Stricture of the Urethra. By J. P. Vincent	130
62 Excision of the Head of the Femur in Caries of the Hip-joint. By Henry Smith, M.R.C.S.E.	131

SECT. IV.—*Rare Surgical Cases.*

63 Remarkable Case of General Anchylosis cured by the Application of Cold Water. By Dr. L. Fleury	137
64 Remarkable Case of Fracture of Three Vertebrae of the Sternum, and of Three Ribs. By M. Brabant	139
65 Case of Undescribed Congenital Malformation of the Shoulder-joint, simulating Congenital Dislocation. Communicated by Dr. O. B. Bellingham	140
66 A Case of Ischio-rectal Abscess, caused by an Injury of the Nates, producing Symptoms resembling those of Dislocation into the Foramen Ovale, and those of Morbus Coxæ; with Remarks. By R. P. Howard, M. D.	141

PART III.—MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

SECT. I.—*Midwifery and Diseases of Women.*

ART.	PAGE
67 On Certain Displacements of the Unimpregnated Uterus. By Joseph Bell	145
68 On the Diagnosis and Treatment of Retroflexion of the Womb. By T. Safford Lee, M.R.C.S.	146
69 On Inflammation and Abscess of the Uterine Appendages in the Non-Puerperal State. By Henry Bennet, M.D.	150
70 Bitartrate of Potash in Uterine Hemorrhage	155
71 Case of Excision of the Anterior Lip of the Os Uteri, with Ulceration. By Dr. Clay	ib.
72 Acute Peritonitis simulated by Prolapsus Uteri. By Dr. Meigs	156
73 Prevention and Treatment of Abortion. By Dr. Tyler Smith	ib.
74 On Occlusion of the Os Uteri and Vagina. By Dr. Trask	160
75 On Rupture of the Uterus. By the Same	162
76 On the Mode of Application of the Long Forceps. By Professor Simpson	165
77 Remarks on the Forceps. By Dr. Alexander Tyler	167
78 Spontaneous Expulsion of an Uterine Tumour. By Dr. Eldredge	169
79 "Sachets" in Prolapsus and Relaxed Vagina	170
80 Medicated Pessaries	ib.

SECT. II.—*Diseases of Children.*

81 On the Pneumonia and Bronchitis of Infancy. By R. C. Golding, M. D.	170
82 Practical Remarks on Croup. By Dr. Zeroni	172
83 Diseases of the Larynx in Infancy; their Diagnosis and Treatment. By M. Blache	175
84 Treatment of the Diarrhœa of Infancy. By Dr. West	176
85 On the Vaginal Discharges of Children. By R. C. Golding, M. D.	178

APPENDIX.

86 Synopsis of the Methods of Treating Asiatic Cholera, recommended by recent Writers	179
---	-----

REPORTS.

Report on the Progress of Practical Medicine, Pathology, and Therapeutics. By the Editor	185
Report on the Progress of Surgery. By Henry Ansell, Esq., M.R.C.S.	217
Report on the Progress of Midwifery and Diseases of Women and Children. By the Editor	240

Books received	261
Bibliographical Record	263
Index to Vol. VIII	265

ABSTRACT OF THE MEDICAL SCIENCES,

ſc. ſc.

PART I.

PRACTICAL MEDICINE, PATHOLOGY AND THERAPEUTICS.

SECT. I.—ZYMOTIC DISEASES.

ART. 1.—*Treatment of Typhus Fever.* By Dr. GEORGE B. WOOD, Professor
in the University of Pennsylvania, &c.

(From a *Treatise on the Practice of Medicine*, 2 vols., 1847.)

IN the earliest stage, before reaction has commenced, little treatment is usually necessary; and, indeed, there is seldom an opportunity for prescribing, as the patient is not seen until after the stage has passed. Sometimes, however, when it is more than ordinarily protracted or severe, it becomes necessary to employ remedies; and during the prevalence of epidemics of typhus, cases now and then occur in which life may depend on the timely interference of the physician. An emetic has been recommended under these circumstances, in order to rouse the system out of its apparent torpor, and to direct action to the surface. It may sometimes be useful when the depression is not great. Ipecacuanha or sulphate of zinc should be preferred. But the general indication is to stimulate by such means as will not be likely to increase the fever too greatly, when it takes place, nor too strongly to add to the already existing tendency to the brain. The morbid cause is depressing the vital functions by its sedative power, and there is danger that they may be reduced below the point of reaction. External stimulants are the safest. The most powerful rubefacients, such as mustard, solution of ammonia, cayenne pepper, and oil of turpentine, should be applied to the extremities and along the spine; and these should be aided by external heat, by means of hot bricks, bottles of hot water, &c.; placed along the body, hot stimulating pediluvia; or what would be probably the most effectual, the hot bath. If internal stimulation should become necessary; carbonate of ammonia, or oil of turpentine, would be preferable to the alcoholic remedies, as less likely to affect the brain; but when the prostration is excessive, recourse may be had to wine, brandy, or even ether. Cases, however, requiring this treatment, are exceedingly rare.

After the fever has become established, it may be necessary to unload the stomach by a mild emetic; but in general this may be dispensed with, and the treatment commenced with an efficient cathartic, so as thoroughly to evacuate the bowels. Calomel and rhubarb are generally best adapted to the circumstances of the case; though when the febrile action is high, with considerable strength of pulse, the saline purgatives may be preferred, with or without the addition of senna. Throughout the whole course of the disease, the bowels should be kept open by cathartics. These are indicated by the necessity which exists of avoiding accumulations of excreted matter in the bowels, and the depressing effect arising from its absorption when retained. The dark, offensive substances which

collect in the alimentary canal in typhus probably act as a direct sedative to the system. Cathartics, therefore, so far from increasing the debility, tend, if properly selected and employed, to obviate it. I am sure that I have seen the system, in low states of typhus, rise under the operation of medicines of this kind. No such contra-indication exists here as in the enteric or typhoid fever. The only caution necessary is to graduate the activity of the medicine, its dose, and frequency of repetition, to the state of the system. In the early period of excitement, the object may be effected by small doses of some saline purgative; but later in the disease, rhubarb should be preferred, either alone, or combined with aloes. One of the tinctures of rhubarb may be employed, with great propriety, in the latest stage, when stimulation becomes necessary. Sometimes it may be necessary to aid the cathartic by enemata, which may in general advantageously contain the oil of turpentine.

The question as to the propriety of bleeding, in the early stage of the fever, has been much discussed. By some the remedy has been urged as of the greatest importance; by others it has been condemned as almost always injurious, and scarcely ever necessary. Probably the advocacy of it may partly have been owing to the confounding this disease with enteric fever, which is well known generally to bear bleeding well at the commencement. It is very certain that, in genuine typhus, it is often capable of doing much harm; and death has frequently been the result of its injudicious use. During the prevalence of the great typhus epidemics of this country (America), it frequently happened that, upon the first arrival of the disease in a neighbourhood, not being understood by the physicians, and frequently presenting the complication of some local inflammation, it was treated by them as they had been in the habit of treating other febrile and inflammatory diseases, with the free use of the lancet. The consequences were, in many instances, very fatal. Such an instance occurred in the neighbourhood of Philadelphia. The disease approached the city through the state of New Jersey, and prevailed for some time in the opposite village of Camden, before it crossed the Delaware. In that place it was unknown, and was treated as an inflammatory affection, with almost uniformly fatal results. My friend and preceptor, the late Dr. J. Parrish, of Philadelphia, then a young practitioner, was called into the village at this juncture, and having been prepared by the perusal of Dr. North's treatise on the disease, as it had prevailed in New England, immediately adopted a different course of treatment, avoiding bleeding altogether, and using stimulants, with the effect of curing almost all cases. He thus laid the foundation of that reputation as a skillful physician, which has never been exceeded in our city. I have heard of other reputations which began in the same way. So fatal was copious bleeding in that epidemic, that popular, and to a great extent professional opinion received a set against it; and it was some time after the disappearance of all tendency to the disease before the fear of the remedy so far subsided as to permit its judicious use under circumstances requiring it.

But, though thus injurious if abused, there are undoubtedly cases of typhus fever in which bleeding may be moderately employed with safety and advantage. It is highly probable that different epidemics may differ greatly in this respect, the loss of blood being much better borne in one than in another. The remedy is often very speedy and effectual in the relief of the headaches, and other symptoms of cerebral disturbance, during the first few days. Its effects are said to be even more striking in this than in other febrile diseases. It may be resorted to when there is evidence of much and dangerous local determination of blood, with considerable strength of pulse; but even then the quantity taken should be small. Little is required to diminish the force of the pulse, and there is danger of syncope, as well as of subsequent prostration, from the loss of large quantities. Six or eight ounces are often sufficient, and more than twelve should seldom be extracted at one operation. In the great majority of cases it is altogether unnecessary. In those which are at all doubtful, it is best to employ local bleeding. This is safer, and relatively more effectual. When the head is affected, the blood should be taken from the temples or back of the neck, by cups or leeches. In pectoral inflammation, they may be applied between the shoulders. A very slight depletion may sometimes be usefully effected by means of dry cups, which withdraw a certain amount of blood from the circulation to the surface where they are applied.

The febrile heat of the early stage is most effectually relieved by the external use of cold water. This may be dashed upon the patient, as recommended by Dr. Currie, or applied by sponging. The latter mode is preferable when there is much debility. The remedy should never be used when there is any feeling of chilliness on the part of the patient, or any perspiration. Affusion would probably also be hazardous in cases complicated with pneumonia. In doubtful cases, sponging with cold water should be preferred. Sometimes spirit, or spirit diluted with water, may be advantageously substituted. The effect of these remedies is to relieve the distressing heat, relax the skin, produce occasionally a gentle sweat, and greatly comfort the patient. The affusion is said sometimes to have apparently arrested the disease.

The mild refrigerating diaphoretics may also be used, such as the neutral mixture, effervescing draught, solution of acetate of ammonia, and sweet spirit of nitre. Dover's powder is often very useful by producing diaphoresis, quieting restlessness, and promoting sleep. It should, of course, not be employed in comatose cases. When the fever is complicated with pectoral inflammation, no remedy is probably so effectual as a combination of opium, ipecacuanha, and calomel, given so as to keep the system moderately under an anodyne influence, and continued until it slightly affects the gums. Sometimes gently-stimulant infusions may be administered at the same time. In this country (America) the infusion of serpentaria has been frequently used. On the continent of Europe, they often employ the flowers of arnica, and sometimes contrayerva and angelica.

Stimulants are essential in the treatment of typhus. Sometimes it is necessary to administer them from the outset of the disease; but more frequently they are required only at an advanced period, when the feebleness of the pulse, the dryness of the tongue, the sordes about the teeth, and often some coolness of the extremities, indicate the commencement of prostration. Upon the whole, the most efficient stimulants are Peruvian bark, wine, and opium. The bark was formerly given in decoction, often made with wine, with the addition of serpentaria or aromatics. At present sulphate of quinine is generally preferred, as more convenient of administration, and more acceptable to the stomach. The dose may be a grain every two hours. Wine is usually given at first in the form of whey, made with two parts of milk and one of Madeira, sherry, or Teneriffe. Afterwards, when stronger stimulation is required, it may be administered pure. The quantity must of course be regulated by the degree of debility, and the effects produced. It may not exceed a wineglassful in a day, or it may amount to a quart. Porter or ale may be substituted when more convenient, or preferred by the patient. Opium is administered in substance or tincture, in such quantities, and at such intervals, as to maintain a regular excitement without stupefaction. From half a grain to a grain may be given every four, six, or eight hours; and the quantity may be increased if necessary. Carbonate of ammonia is also a good stimulant, which may often be used advantageously, dissolved in water, with the addition of gum arabic and loaf sugar, to obtund its acrimony. From two and a half grains to ten grains may be given at a dose every hour or two. It is customary to begin with small quantities of wine-whey and carbonate of ammonia, alternately, every second hour, increasing the dose, and adding the other stimulants as the case is found to require them. Sometimes it is necessary to have recourse to brandy, or other form of proof spirit. The oil of turpentine may also be used; and some have recommended phosphorus, but I have never used it.

Should the stimulants be found to increase the frequency of the pulse, heat of skin, delirium, and stupor, they should be suspended, or the quantity reduced. If they strengthen without accelerating the pulse, relax the skin, and moderate delirium and stupor, they may be considered as doing good.

In the sudden-sinking spells which sometimes occur, and threaten the most serious consequences, active stimulants must be quickly used. Under these circumstances, sulphuric ether may be given in the dose of a fluid drachm. Long-continued sleep occasionally exhausts patients in typhus fever exceedingly. It is best, therefore, unless sleep may, from special causes, be deemed very desirable, to wake the patient occasionally, in order to administer his medicines. This, too, is necessary, in order to sustain a uniform effect by means of the medicines.

For the nervous symptoms, such as restlessness, jactitation, vague uneasiness,

subsulcus, &c., camphor is often an admirable remedy, in doses of from five to ten grains, given in emulsion. Musk is the most effectual remedy in singultus.

External stimulation is of great importance in those cases in which the surface is cool. This is effected by means of sinapisms to the extremities; blisters to the thighs and trunk, allowed to remain so long as is necessary to redden without vesicating; and by frictions with cayenne pepper and hot brandy, oil of turpentine, liniment of turpentine, &c. In the lowest and most insensible conditions, the electro-magnetic machine may be used; or the patient may be wrapped from head to foot in a blanket saturated with heated spirit; or, finally, the effect of a burning coal applied to the epigastrium may be tried.

For violent headache, coma, and delirium, after the local abstraction of a little blood, if this be deemed necessary, it will be proper to thin or shave off the hair, to apply ice or cold water, and in the latter stages to blister the back of the neck, or what is more preferable, the whole scalp. Sometimes great relief is afforded by warm fomentations about the head when the cold applications fail.

For the measures requisite in cases complicated with inflammation of the lungs, the reader is referred to typhoid pneumonia. Irritation of stomach and bowels is to be combated by the ordinary measures, among which opiates internally, and revulsive applications, or cataplasms externally, are not the least efficient.

The remarks made in reference to diet, under enteric fever, are applicable also here. It is even more necessary in typhus to throw a due amount of nutrition into the system; and though for the first few days it may be proper to confine the patient to farinaceous liquids, yet, as the disease advances, animal broths become necessary; and in very feeble states we must have recourse to the animal essences, milk-punch, &c.

ART. 2.—*On the Internal Use of Turpentine in Typhoid Fever.*
By Dr. GEORGE B. WOOD, Professor in the University of Pennsylvania.

(From a *Treatise on the Practice of Medicine*, 2 vols., 1847.)

The author remarks that there is a particular and dangerous condition in typhoid fever, in which he has rarely known turpentine to fail. In his description of the symptoms of the disease he states that in the latter periods the tongue, instead of cleaning from the edges and tip gradually, as in ordinary convalescence, often parts with its fur quickly, and in large flakes generally, first from the middle and back parts of the surface, which is left smooth and glossy, as if deprived of its papillæ. He also mentions that if, after this process, the tongue remain moist, a slow convalescence may be confidently calculated upon. "But it not unfrequently happens," he proceeds to observe, "that during the progress of the cleaning process, or after its completion, the surface of the tongue becomes quite dry, and the process, if not finished, is suspended. At the same time, there is generally an increase of the tympanites, and an aggravation of the other symptoms. Two cases of this kind I have seen terminate fatally. Ascribing the aggravation of the case, under these circumstances, to the occurrence of ulceration in the ileum, I inferred that the oil of turpentine, which had been recommended in ulcerations of the intestines, might prove useful here, and determined to employ it in similar cases. I did so, and have never yet found it to fail under the circumstances mentioned, although I have frequently had occasion to resort to it, both in public and private practice. It acts in some measure as a stimulant, but chiefly, I believe, as an alterative to the ulcerated surfaces in the intestinal mucous membrane. It should be given in doses of from five to twenty drops, every hour or two, in an emulsion of gum arabic, sugar and water; a little laudanum may be added. In the course of twenty-four, or at most forty-eight hours, some amelioration is observed. The tongue becomes gradually moister, and covered with a white fur, the tympanitic distension ceases to augment, and after a time diminishes; the pulse becomes less frequent, and the patient enters slowly into convalescence, without any other remedy. Not unfrequently the practitioner is not called in till the disease has assumed the aspect alluded to. He finds the tongue red, smooth, and dry, the abdomen tympanitic. I have known such cases to run on for a considerable time, without change, under various treatment, and then yield immediately to this remedy. I repeat, the oil of turpentine may be used with good hope of benefit

in any case of enteric fever, in the advanced stage, with dry tongue and weak pulse; but in the cases alluded to, with a confidence of success, so far as the experience of twenty years may be admitted as evidence.

ART. 3.—*Treatment of Cholera.* Remarks by various Writers.

1st. *On the Treatment of Cholera by Strychnine.* By C. E. JENKINS, Esq.—The formula employed is, pure strychnia, gr. 1, conserve of roses sufficient to form eighteen pills, one to be given every quarter of an hour, and washed down with copious draughts of cold water, which the patient will greedily and gratefully imbibe. The first three or four pills will be probably ejected, but the subsequent doses will be retained, and their good effect, in conjunction with the water, speedily perceived.

The author, with regard to the *modus operandi* of these remedies, apprehends that strychnine, being the most powerful tonic known, acts in that capacity on the prostrate nervous system; and that the cold water in the first place replaces the loss of the fluids, and in the next, by its coldness, constricts the papillæ of the mucous membrane, thus suppressing their outpourings; lastly, that, by its volume, it distends and gives tone to the otherwise empty and flaccid intestinal tube.

The author supports the opinion that cholera and influenza are mere varieties of one and the same disease, attacking different organs; in the one, the mucous membrane of the respiratory, in the other, of the digestive organs. In both forms the same copious watery discharge is emitted, accompanied by the same remarkable prostration of strength: both are subdued by the same means.

Lancet, Sept. 2d.

2. *On the Prevention of Cholera, and its Treatment by Common Salt.*—[A correspondent of the '*Lancet*' offers the following observations:]

The following statement, bearing upon the prevention of susceptibility to cholera, should it appear in Great Britain, is considered worthy of public attention by a medical man of moderate practice and experience, who saw much of the malignant form of the disease in the early part of 1832 and middle of 1834:—

The causes which especially predispose to attacks of cholera, are a somewhat weakened state of the stomach and alimentary canal. This condition is so decidedly obviated by eating freely of common salt with our meals, that it is believed three-fourths, at least, of the cases which would otherwise occur, may be prevented by having recourse to this simple addition to our food.

The quantity taken should be exactly what the stomach will bear without after-inconvenience; for an adult, from a quarter to a third of an ounce during the day is amply sufficient—children to have proportionably less; but this quantity must be subdivided, so that it may be taken at *three* periods; for example, a ninth of an ounce at breakfast, dinner, and tea or supper. It may be eaten with fish, animal food, poultry, game, bread, toast, or bread and butter.

The writer begs to state, that salted meats and other preparations into which salt enters or is dissolved, as broths, soups, &c., are totally different in their action upon the stomach to salt in its pure state. The chemical change produced on salt by heat, and its long admixture with other matter, not only destroys its preventive character, but renders solids or fluids thus impregnated, in many instances, prejudicial.

When cholera was prevalent in London, the writer was constantly exposed to its influence, and only used the above simple preventive measure. He could chemically and physiologically explain its mode of preventive action, but such detail is more calculated for medical journals and scientific bodies. Suffice it to add, that it may be taken without the slightest risk to the general health, under all circumstances.

Sanitary measures, as warm clothing, wearing flannel next the skin, ventilation, cleanliness, and good food, generous living rather than the reverse, are much recommended.

The writer will further observe, that the public are in error, who suppose fresh

fish, perfectly in season, ripe fruits, or fresh vegetables unwholesome. Indeed, taken moderately, they lessen the tendency to the disease in question.

In two days after eating the quantity of salt, as recommended, persons, it is believed, will not be susceptible to the influence of cholera. Its daily use, however, and in the same quantity and manner, must be persisted in, so long as cholera remains in this country, should it unhappily visit us.

The writer confidently believes this simple plan would operate as efficiently upon our regiments in India or elsewhere, where cholera prevails, as he feels assured it will be found to do in England, should its administration be unfortunately called for.

[The author of the above prophylactic suggestion (Mr. Beaman, of King street, Covent garden), during the advent of Asiatic cholera, in 1834, forwarded us a communication on its treatment, which was published in the Number for August 23d of that year (p. 754), and from which we extract the following statement:—]

To an adult I give three tablespoonfuls of common table salt in half a pint of tepid or cold water; this produces vomiting in less than one minute, and the vomiting ought to be powerfully violent; such effect is followed by an immediate diminution of the cramps, and very marked increase in the fulness of the pulse; the other symptoms are much amended, the voice becoming stronger, and the muscular power greater. It may happen that the first dose answers every purpose; frequently, however, the beneficial effect of the first dose is not permanent, for within twenty minutes, or half an hour, the pulse begins to flag, and then rapidly decreases in power; another attack of cramp ensues, and the prostration increases; a second dose of the salt is now to be administered, and even a third may be required. I have never had occasion to give it oftener than three times.

The good effect of the salt emetic really depends upon its producing powerful and very efficient vomiting; without this full operation it ought to be thrice repeated, with an interval not exceeding five minutes between the doses.

The adjuvant treatment consists in placing the patient between warm blankets, but he must not be too heavily covered—rubbing the parts spasmodically affected with stimulating liniment, and occasionally applying a mustard cataplasm to the pit of the stomach.

As medicine, I dissolve half a drachm of carbonate of soda in two or three ounces of water, and with the addition of four or five drachms of fresh lemon juice, give it while effervescing, every hour, for three or four doses; afterwards once in four hours. For forty-eight hours I give no other medicine.

I have tried, in two instances, scruple doses of the muriate of soda with the same quantity of the carbonate; but the combination was nauseous to the patients, and no advantage was gained.

Generally, on the day after the attack, the patient passes a small fecal evacuation, containing bile; otherwise I give, at the expiration of forty-eight hours, a drachm of castor-oil, or a few grains of rhubarb.

The active part of the above treatment requires the constant superintendence and watching of the medical practitioner from two to four hours, during which time I give the patient as much water, or toast and water, cold or tepid, as may be wished for, and no other beverage. For the next twenty-four hours I allow only weak black tea and thin arrow-root; and on the ensuing day a little broth or light pudding, my patient now being generally convalescent; indeed, it is remarkable how rapidly recovery ensues, considering the late direful state of the individual.

The plan may require some modification when treating young or aged persons.

Lancet, Sept. 2d.

3. *On the Treatment of Cholera by Carbon and Carbonic Acid.* By W. PRICE EVANS, Esq., Surgeon, Swansea.—Mr. Evans, addressing the Editor of 'The Lancet,' remarks: When I penned the letter you did me the honour to insert in 'The Lancet,' ante p. 247, I had not read the communication of Dr. Parkin recommending carbon, or rather carbonic acid, in the treatment of cholera. Either Dr. Parkin, or your humble servant has a very confused notion as to the respective properties of charcoal and carbonic acid. Quoth Dr. Parkin, "Knowing that carbonic acid combines with, and renders innocuous putrefactive and other substances injurious to

animal life, it is neither unreasonable nor unscientific to conclude," &c. It is evident, from what follows, that it is carbonic acid the Doctor means, and that it is no misprint for charcoal. Now, as carbonic acid does *not* possess the properties ascribed to it by Dr. Parkin, I will, *meo periculo*, venture to assert, that it is both unreasonable and unscientific "to conclude that this gas neutralises the effects of those noxious and excrementitious matters, which always exist, to a greater or less extent, in such situations."

Fresh charcoal, on the other hand, possesses in the highest degree the power of absorbing the gases—a fact which, in connexion with others concurrent, induced me, in your last journal, to record my conviction that it had 'the property of absorbing the choleric virus.' According to Mr. J. C. Atkinson (*The Lancet*, p. 220), naphthaline also is endowed with the property of absorbing gases. The extract below, from Dr. Ure's Dictionary, will justify me in considering and recommending fresh charcoal as an important preventive and remedial agent, more especially now that the death-tread of the fell cholera is daily heard approaching near and still nearer to our shores.

The following is a tabular view of the volumes of the different gases which were absorbed in the course of twenty-four hours by one volume of charcoal, in the experiments of M. Théodore de Saussure, which were conducted in a way likely to produce correct results:

Ammoniacal gas	90	Bicarburetted hydrogen	35.00
Muriatic acid gas	85	Carbonic oxide	9.42
Sulphurous acid	65	Oxygen gas	9.25
Sulphuretted hydrogen	55	Nitrogen	7.50
Nitrous oxide	40	Carburetted hydrogen	5.00
Carbonic acid gas	35	Hydrogen gas	1.75

The introduction of coke as an article of fuel for household purposes, would ensure a regulated supply of it in the fresh state on the premises, so that all who used it, would, in and about their houses, have a surface of coke of more or less extent presented to the atmosphere.

This view of the subject being admitted, it is obvious that the administration of fresh charcoal would be likely to prove useful in other cases, such as in those of cattle, after partaking largely of green food, where enormous distension ensues, consequent on the extrication of the gases.

Lancet, Sept. 8th.

4. *Treatment of Cholera by Stimulants, Mercury, and Sesquichloride of Iron.* By J. R. HANCORN, Surgeon, Shoreditch, M.R.C.S., &c.—It appears to me requisite to call upon the Royal College of Physicians, or the Central Board of Health, to come forward and propose some distinct line of treatment for the guidance of the profession generally, the majority of whom are in a state of great uncertainty as to the best mode of meeting the enemy.

In the absence of an authorized mode of treatment, it behooves every practitioner who has had an opportunity of witnessing this direful disease, to come forward and show his experience for the guidance of others. This is my present object, and I propose to offer a systematic course of medicinal remedies which, in 1831-2, I found most successful in a large majority of my cases, a treatment sanctioned by Dr. Warden, then Surgeon of Sheerness dockyard, Dr. Gooch, of the *Ocean* flag-ship of the same port, and other surgeons, and published in the '*Lancet*' of that period.

Cholera is sometimes ushered in by simple diarrhœa, and at other times commences at once in the most aggravated form, and terminates in death in the short period—as I have witnessed—of four hours. If the attack begin with a feeling of nausea, a very gentle emetic may preface the other remedies—as two scruples of powdered ipecacuanha. But if merely uneasiness and relaxation of the bowels occur, then a pill of two grains of extract of opium, and four grains of calomel may be given, followed in two hours by three-quarters of an ounce of castor oil. About two hours after this, give two tablespoonfuls of the following mixture every two, three, or four hours, according to the urgency of the symptoms: Sesquicarbonate of ammonia, a scruple; sesquicarbonate of soda, a drachm; aromatic confection,

a drachm; tincture of capsicum, thirty minims; sedative solution of opium, thirty minims; camphor mixture, to six ounces: mix. To take mercury with chalk, three grains: powdered capsicum, three grains; mix for a powder to be taken every four hours, as well during the collapse stage as that of the simple diarrhoea, always taking care the mercurial preparation be not carried too far. It is of the utmost importance to keep up the secretion of the liver, the proper action of which will be found to be the great security against the after consequences; viz., typhus fever.

Should the real Asiatic cholera supervene, I would strongly urge upon my professional brethren to try the styptic remedy which I found so remarkably successful in 1832; viz: tincture of sesquichloride of iron. This was my sheet anchor, and I gave it in as concentrated a form as possible immediately after every ejection.

Whatsoever may be the nature, cause, or original seat of disease in Asiatic cholera, the effect produced appears to be an atony of the secretory and excretory ducts and mucous follicles: it therefore follows, as a natural indication, to restore power and tone to these vessels as speedily as possible, and this is best effected by the administration of styptics. When I used the tincture of sesquichloride of iron, in 1831-2, its immediate effect in reducing the quantity of fluid ejected was truly astonishing, and it gradually diminished after every dose, until it ceased altogether, and the cure was effected. It should be remembered, that after this medicine, the evacuations, instead of being like rice-water, are black (the effect of the iron); this should be explained, otherwise the bystanders become much alarmed.

As a local application for the relief of cramp, I have found the following liniment far preferable to mustard poultices, not only from its stimulating properties, but because the requisite friction in using it is in itself efficacious: Strong sulphuric acid, a drachm and a half; olive oil, an ounce and a half; mix for an embrocation. The only objection to its use is its destructive action on the linen, which is of very little importance considering the direful nature of the malady. The hot-air bath should, also, be had recourse to; this is effected by means of a small spirit lamp and apparatus on the principle of Sir H. Davy's safety-lamp, which is merely placed under the bedclothes, so that any degree of heat may be quickly induced. I cannot too strongly urge the avoidance of *brandy or large doses of opium*; they both *enervate the system*, prostrate the vital energies, and do more harm than good. Though the extreme coldness of the surface of the body and of the tongue—nay, the coldness of the breath itself—would seem to indicate the former, it is not so, for the patient complains of the most agonizing thirst, and intense heat in the hypogastric region, which is best allayed by the free use of iced soda water and iced champagne, and small pieces of ice retained in the mouth and occasionally swallowed.

Lancet, Sept. 9th.

5. *Treatment of Cholera by Tartar Emetic.* By Dr. RADCLIFFE HALL.—The ordinary mode of proceeding was as follows: Five grains of tartarized antimony were dissolved in half a pint of camphor mixture; of this an ounce was given every two hours. The patient was urged to drink freely of toast-water. Immediately, or in a short time after the first dose, vomiting occurred, and was encouraged by the toast-water. After a time, the patient usually objected to the copious drinking of the water, and required much urging to persevere. Perseverance, however, was strongly enjoined. It was noticed in nearly all the fatal cases, that the objection to continued drinking had not been overcome. This plan was unceasingly persevered with, presenting a scene of incessant drinking and throwing up, until the stomach became tolerant of both the antimony and the fluid. The mixture was then continued, with less drinking of toast-water, so long as the symptoms required it. Simultaneously with, or shortly after the cessation of, vomiting, the symptoms usually improved. The good signs were these: warmth of tongue, gentle warm perspiration, and secretion of urine; increased volume of pulse, subsidence of cramps and of diarrhoea, and less of the extreme dejection of mind: sometimes a little bile in the matter vomited, or a bilious stool. The antimony was now discontinued, the patient allowed to remain quiet, warmth applied to

the feet, and a little arrow-root gruel given, flavoured or not with brandy, according to circumstances. The patient generally fell into a quiet sleep, and awoke feeble, but feeling comparatively well, and in good spirits. The action of the bowels was next attended to by giving castor oil, and very little other than hygienic treatment was needed subsequently. When the cramps attacked the abdomen, sinapisms were applied until the effect of the antimony had had time to remove them.

The advantages of this treatment were found to be—1, its superior efficacy as a means of cure; 2, its speedier operation in curing; 3, the absence of the fever of reaction, with its accompanying risk of pneumonia and other serious lesions, a result not ordinarily attending any of the other methods of treatment.

The *rationale* of this treatment—homœopathic in theory, heroic in practice—is easily deduced from the known pathology of cholera. All we know of the facts of cholera is summed up in few words. After exposure to the influence, the subject sickens, there is extreme prostration of mind and body, shock of all parts of the system, a check to all natural secretion, inability on the part of the vascular organs to circulate the blood properly, want of blood on the surface, superabundance of blood in the viscera, a gorged state of the internal veins, effusion of the serous part of the blood through the gastro-intestinal mucous membrane, and, consequently, serous vomiting and purging, deficient animal heat and cramps. What, then, are the indications?

1st. To restore the circulation by dislodging the gorged internal vessels of their contents by sending blood to the surface, and so to gain time.

2d. To follow Nature's indication of ejecting the *materies morbi*, without allowing death to ensue in the meantime; or otherwise to follow, to a safe extent, Nature's own plan of action, until the morbid agency ceases to exercise its deleterious influence.

3d. To restore fluid to the drained and inspissated blood.

4th. To restore secretion.

Theoretically, we might have doubted the safety of exhibiting a prostrating remedy like tartar emetic in a disease attended with prostration like cholera. On such a principle we should not bleed in peritonitis. But the prostration of cholera is kept up by the almost stagnant circulation in the capillaries, and the engorgement of the veins, conditions which antimony, when absorbed, has a tendency to obviate, and which, as an emetic, both mechanically and through the ganglionic nerves, it tends to overcome. The distinction between spontaneous vomiting and vomiting artificially induced must be borne in mind. The former exhausts far more rapidly than the latter.

Lancet, Sept. 16th.

6. *Treatment by the Internal Use of Chloroform.* Case by Mr. BRADY, of Harrow. —Mrs. Kidney, æt. 55. of very delicate constitution, was attacked on Thursday, the 24th ult., with diarrhœa, for which she took a dose of "rhubarb and brandy." The diarrhœa not having abated on the following morning she sent to me for a remedy; and, conceiving that it might have depended on irritation induced by indigestible food, I ordered her the following draught:

R Olei ricini. ʒij,
Tæ. opii, ℥xx,
Ol. terebinth., ℥xx,
Aq. m. pip., ʒj.
M. ft. haustus.

This draught procured her a temporary relief: but during the night the diarrhœa increased, accompanied with severe tenesmus and spasm of the stomach, with vomiting of a greenish acrid fluid.

On Saturday morning, at seven o'clock, I was called in haste to see her. I found her labouring under the symptoms above named, with an extremely anxious countenance, and a quick and a feeble pulse; the dejections watery, with a white curdy precipitate; tongue covered with a dark fur; the temperature of the body natural; urine suppressed. Ordered sinapisms over the abdominal and gastric regions, and the following medicines:

R. Fellis. bov. inspiss., gr. iv,
Hydrarg. chlor.; gr. ij,
Capsici, gr. j.

Fiat pilula omni horâ capienda.

R. Mist. cretæ, ℥iij,
Ammon. carb., ℥ij,
Tæ. opii, ℥iiss,
Catechu, ℥vj.

M. Capt. ℥j, omni horâ.

Ten o'clock A. M. Vomiting and diarrhœa still continue, accompanied with excruciating spasm of the stomach and severe cramp in the legs. The difference in the aspect of the patient is remarkable: the features collapsed; the eyes deeply sunk, and the expression that of total apathy; pulse almost imperceptible; extremities cold, and finger nails blue. Ordered mustard poultices to the calves of the legs and soles of the feet, and gave ten minims of chloroform in weak brandy and water; the nausea ceased at once. After a few minutes I inquired how she felt; she said that "she felt the medicine warming her all over."

Eleven o'clock A. M. No vomiting or purging; aspect much improved; pulse remarkably raised, as well as the temperature of the whole body. Ordered rice, milk, and a little wine negus.

Twelve o'clock. Still improving; spasm in the calves of the legs occasionally recurring. I now gave a second dose (of five minims) of chloroform, and by two o'clock P. M. every symptom of the disease had vanished, with the exception of extreme debility, from which she gradually recovered. During the attack thirst was excessive, but everything drunk was immediately rejected, until the first dose of chloroform had been taken, when the vomiting ceased entirely. I have given it in five cases of simple cholera, occurring in athletic labourers, in doses of fifteen and twenty minims; and, although it invariably raised the pulse and spread a sensation of warmth all over the body, the diarrhœa appeared to have been but little affected by it; the vomiting, however, is generally subdued in a most remarkable manner; and I am inclined to think that, in small doses, it will be found to be the most effectual remedy we possess in subduing the irritability of the stomach which accompanies many idiopathic affections.

In no case in which I have yet given it, even in doses of twenty minims, did it appear to exert the least narcotic influence on the brain. If it affected the cerebral function at all, its influence seemed to be that of a mild stimulant, the exalted action producing, however, no subsequent depression. This quality must render it peculiarly adapted to the treatment of malignant cholera, in which opium, ammonia, ether, and the large quantities of alcoholic fluids, that are usually administered in severe cases, even granting that they relieve the urgency of the symptoms in the earlier stage of the disease, must inevitably add to the depression and collapse, which are its most marked and unmanageable features towards the close.

In the severe cases in which I have successfully given it, after the irritability of the stomach and bowels and the severity of the cramp have been subdued, a pleasing slumber is enjoyed; but this is evidently not the stupor of a narcotic, but the quiet resulting from a sudden alleviation of pain and anxiety.

The exemption of the brain from its influence as a sedative is remarkable, considering how speedily a comatose state may be induced by its inhalation; but the dose of a volatile fluid which will produce a narcotic effect when inhaled will be no criterion of the quantity which may be introduced into the stomach with safety; and the converse is also true. A large quantity of carbonic-acid gas may be introduced into the stomach with impunity: we know how fatal is its inhalation in comparatively small proportion; and the dose of ether sulphuricus which has been inhaled during some severe operations would, if taken by the stomach, have very probably induced fatal narcotism.

Case by Mr. Plimmer.—The following case of Asiatic cholera resembles in every symptom the one communicated by Mr. Brady.

The patient, æt. 35, of slight stature, always enjoying good health, had slight diarrhœa on the evening of the 14th inst. At four o'clock A. M. on the 15th, vomiting came on very violently, with spasm affecting all the extremities; this con-

tinued, with diarrhœa, to increase till eleven, when I saw him, his symptoms being precisely the same as Mary Parrott, but, if possible, more aggravated. I determined on giving chloroform, after giving hydr. chlorid. with opium, which was immediately rejected. I gave the following mixture: Chloroform, m℥j; brandy, ʒiij; water, ʒiiss. I gave a third part, which was thrown up in half an hour; I gave him a second dose, which was retained: the vomiting and diarrhœa ceased; the spasm less severe. I gave him, in two hours, the remaining part, and during the next six hours I administered, in two doses, six minims more of the chloroform with the most decided benefit: and he is now, the 17th inst., convalescent. To the extreme tenderness over the region of the epigastrium I applied flannel soaked in rectified spirits of turpentine. I observed there was no urine secreted, and I am firmly of opinion that the usual remedies would not have met this case. I candidly confess I had no hope of success, from its severity, and but for Mr. Brady's case, I believe I should have lost my patient.

Medical Gazette, Sept. 16th.

[It should be remarked that these cannot be considered as instances of genuine malignant cholera, as up to the present time (Sept. 9th) there is no evidence that the epidemic has reached this country.]

7. Reported Specific for Cholera.—An alleged remedy against the cholera has been communicated to the Board of Health by an officer of rank, long resident in India.

Ingredients.—Assafœtida, opium, black pepper pulverized. These ingredients, more or less pure, will be found in every town and village.

The dose for an adult is from a grain and a half to two grains of each, made into a pill.

The medicine should be made up into pills of one dose each, and kept for use in a phial well closed, as it is of great importance to check the disease the instant of its attack.

The best mode of administering the pill is not by swallowing it whole, lest it be rejected in that state, but by chewing it and swallowing it with the moisture of the mouth, and a very little brandy and water to wash it down. The next best way of administering the medicine is by bruising the pill in a spoonful of brandy and water, and then swallowing it.

Much liquid must not be given; but to relieve the thirst, which is great, brandy and water by spoonfuls occasionally is the best mode.

The dose should be repeated every half or three quarters of an hour, according to the urgency of the symptoms, until they have been subdued. From three to five doses have generally been sufficient for this, although as many as eight have been given before health has been restored in bad cases.

Should great prostration of strength prevail, with spasm, or without spasm, after the other symptoms (vomiting, purging, &c.,) have been subdued, the medicine must not be wholly left off, but given in half or quarter doses, so as to keep up the strength and restore the pulse.

Friction, with stimulating liniment of some kind, ought to be applied carefully to the stomach, abdomen, and legs and arms; and when pain in the stomach has been severe, and there was reason to fear congestion of the liver, eight or ten grains of calomel have been given with good effect.

In cases of collapse and great prostration of strength, the application of the tourniquet to the arms and legs has been recommended, in order, as it were, to husband the vital power by limiting the extent of the circulation. This may be tried, using a ligature of tape or other substance, if the tourniquet be not available.

The favourable symptoms of recovery are, restoration of the pulse, returning warmth of the body, and sleep; and after being refreshed by sleep, the recovery being complete, a dose of castor oil may be given.

[Several writers have very properly noticed the danger as well as absurdity of supposing that any advantage is to be derived from the above, more especially from so minute a dose of assafœtida; they also call attention to the recommendation to give two grains of opium every half hour as one of a mischievous tend-

ency, and likely to cause no small amount of danger, if the public, on the faith of the above communication, take the treatment into their own hands.]

SECT. II.—DISEASES OF THE NERVOUS SYSTEM.

ART. 4.—*On Nervous Influence and Derangement.*

By DR. HENRY KENNEDY.

(*Dublin Medical Press*, April 19, 1848.)

[The object of the author, in the following paper, is to illustrate the proposition that "there are certain diseased states of the nervous system exactly analogous to those long recognized in the vascular system; and in many acute diseases this nervous derangement takes the precedence of the vascular disturbance;" in other words, that as there may be hyperæmia of the one, there may be also excess of the other. The author expresses his conviction that the appreciation of this principle will much simplify the study of many diseases. In working out this idea, the author proceeds as follows:]

In the greater number of diseases which affect our frames, inflammation plays a more or less prominent part. This inflammation presents a great variety of character. It may be acute or chronic, typhoid, healthy or specific. It is modified by the texture engaged, by the period of life, and by numerous other circumstances. Hence we have inflammation treated by stimulants, tonics, anodynes, &c. Concerning several of the diseases alluded to, much difference of opinion exists as to treatment. To some of the latter I would direct attention. Acute rheumatism is met, even in the present day, by different, and even opposite modes of treatment, and each in its turn is successful, or may fail. Bleeding has cured some cases, while in others it has signally failed; and I do believe such patients might have been bled to death, and yet the disease would not have yielded. Yet to all outward appearance the cases where bleeding answered, and where it failed, were similar. Precisely the same has come under my notice as regards opium. It also has succeeded, and again failed, though pushed to the very utmost limits; and so I might go through the entire list of remedies. Now, how are we to account for these anomalies? That there must be some cause for such different results of treatment will, I think, be admitted. My conviction is, that a part, at least, of the difficulty will be solved by a recognition of the principle I seek to establish. I believe that many cases of rheumatism, though presenting all the appearances of acute inflammatory disease, owe this to the deranged state of the nervous system in the first instance. I do not mean to say that the vascular system is not also affected; for I believe no form of inflammation can exist without both systems being engaged more or less, but merely that the nervous is more deeply involved than the vascular system in some instances; and if I may so speak, I would describe a nervous inflammation and a vascular inflammation, and that either may put on the characters of acute rheumatism. This idea appears to me to explain easily the reason why we can cure some cases with opium, and others with bark; both being medicines which I presume will be admitted to act more directly on the nerves than on the blood, as shown by their effects in that class of diseases which come under the head of neuralgia. Or, again, why some cases can only be cured by bleeding, antimonials, &c. In point of fact, it accounts for the discrepancies which still exist on the treatment of the disease under consideration.

That nervous derangement may precede an attack of the most acute rheumatism can scarcely be doubted. I have frequently found, on inquiry, that, previous to the actual attack, the patient had been troubled with pains flying through the body, and clearly of a neuralgic character. As every one is aware, too, this is of frequent occurrence in persons afflicted with gout. Such will suffer racking pains through the ball of the great toe for a certain period, there being no other local symptom present, and then signs of inflammation will make their appearance. But probably this is more unequivocally shown in some neuralgic affections. Here you may have no symptom but pain for three, four, or five days, and then inflam-

mation declares itself. This, as most present may probably have seen, is by no means uncommon in cases of face- or gum-ache. Nor is this a matter merely for a passing remark. On the contrary, I have seldom seen such cases but that they were of a more obstinate character, and required treatment of a very different kind from what was suited to the more ordinary forms of neuralgia. It is important, too, likewise to remark, that the same individual may exhibit, at different times, these two forms of the complaint. A lady, now the mother of a family, was attacked, while at school, with neuralgia of the side of the head and face, of a very severe character. The pain seemed then to be confined exclusively to the nerves. She had several attacks of a similar kind, at a later period of her life. These were all cured by treatment, of which the chief part consisted in the use of the extract of stramonium, quinine, and wine-whey. About four years since she was again attacked with her old complaint; but though the same treatment was used as had cured her several times previously, it now was so far from doing so, that it seemed to aggravate her sufferings. In this way matters went on till the fifth day, when mild symptoms of inflammation showed themselves, in slight swelling of the side of the face, stiffness of the jaw, and a blush of redness on the cheek. It would be foreign to the present question to enter into an account of the treatment of this or similar cases. They are merely adduced here as good examples of the principle I seek to establish, which may now be expressed thus—that there are certain diseases attended by the signs of inflammation, but in which the nervous influence is the part primarily and chiefly involved.

But there are other affections which also bear strongly on this subject. Thus the disease so admirably described by Dupuytren, under the name of traumatic delirium, as also delirium tremens, are good examples of the class I mean. The latter disease, more particularly, is a strong case in point. Here you may have all the signs of inflammation existing, and to a very intense degree, and yet all experience shows that the disease must be considered as belonging to the nervous class; that it is to be treated by remedies which act on this system, and that anything of an antiphlogistic plan is attended with positive risk. It is worthy of remark, by the way, that as the excessive use of strong drink acts so decidedly on the nervous system, so when a more moderate use of it is adopted—as when we order it for disease—it may reasonably be inferred that it also acts on the same system.

The consideration of delirium tremens naturally leads to that of fevers, whether belonging to the exanthemata or simple. Of the former I am satisfied that, by carrying out the views now under consideration, a step in advance in the treatment will be gained. I cannot enter here into particulars, but I may state that I have used opium with great benefit in a good many cases of scarlatina; I mean where the disease was still at its height. In smallpox the use of this valuable drug has been long recognised. In some cases, too, of simple erysipelas, or fever with erysipelas, as I believe this affection would be more properly called, I have pursued the same line of treatment, having been led to look upon such cases as instances where the nervous system was earlier and more profoundly deranged than any other. At the present moment I have under my care what, some days since, was a very severe case of erysipelas of the head and face. The patient is a girl, ten years old; and when at the worst, was affected with raving, and a considerable degree of stupor. There was great swelling of the inflamed parts. The treatment, from the second day of the appearance of the erysipelas, consisted chiefly in the use of wine, opium, and subsequently bark. She is now convalescent.

The last class of diseases to which I would advert at present is common Fever: But I must do this very briefly, and in the most general way possible. This part of the subject is of great extent, and, as I believe, importance. From the earliest period that fever has been described, it has been divided into several forms. Thus we have typhus, both congestive and inflammatory; we have synochus and synocha; we have bilious, gastric, and nervous fevers, &c.; and they are all divisions founded in nature. Now, it is scarcely necessary to remind you what a number of cases of fever, and of almost every description, are benefited by the use of wine—at least at some period of their course. During the past year numerous

instances came under my notice, where, from the moment the patient was admitted, wine was given with the best effects. In other instances, again, preparatory treatment was had recourse to, or time was allowed to elapse, before it was given. In that class of fevers known as "nervous," experience has long since established that anything of pure antiphlogistic treatment must be used with great caution; and, on the contrary, that stimulants of one form or other are productive of the best effects. It may be mentioned in passing, that, during the last year, I have used the class of medicines known as tonics with marked benefit. The older authors recommended them strongly; and I rather think they are at present used less than they deserve to be.

Besides wine, there are certain cases of fever in which opium is of the greatest use. Dr. Graves has directed special attention to its administration in conjunction with tartar emetic; and I have often given it myself under the form of Dover's powder, as well as that just stated. There is one point which meets us in the management of simple fever, and which, as it appears somewhat of a paradox, calls for a passing notice. I mean those cases where, at the same time that we use wine or opium, recourse is also had to local bleeding. This is easily explained. Congestion exists in such cases—as, for instance, in the brain; and at the same time that we are removing it, we have recourse also to the wine or opium.

In all those cases, then, of simple fever, where experience has shown that opium, wine, or other stimulants, are the proper remedies to use, I would explain their beneficial effects in the way already done, when speaking of other diseases—that is, that in such cases it is the nervous system which is chiefly at fault, and, therefore, the remedies known to act specially on it are the most suitable. It is, in point of fact, a state of irritation, and to be treated as such.

Enough has, I trust, now been advanced to illustrate the object I had in view in these remarks. It would, however, be very easy to have enlarged on the subject. Thus I might have entered into the general question of the treatment of certain inflammations by opium alone—a great improvement, for which we are indebted to Drs. Graves and Stokes, and which has been since followed up ably by Griffin and others. Your attention, too, might have been directed to the fact, that in certain cases of puerperal peritonitis, opium is now largely employed. Or I might have spoken of the use of the same drug in Pott's gangrene, and other forms of sphacelus, particularly those that are met with amongst children. Those cases of uterine hemorrhage, in which opium in very large doses has been found so beneficial, might also have been adduced as bearing on the subject; but it is time to conclude. Before doing so, however, it may be well to state, for fear of any misunderstanding, that when speaking of the treatment of certain acute diseases by stimulants and anodynes, I would not have it understood that such means were to be used invariably, or even in the majority of instances; neither would I wish it to be supposed that this treatment is simple and easy of application; I am well aware that it is not so. A consideration of these points, however, I have purposely omitted—at least doing little more than allude to them. But I must repeat that my wish has been to direct more attention to derangements of the nervous system; and this, in connection with certain acute inflammatory diseases, than has hitherto been done. I believe that in the nervous system diseased states exist, which are very analogous to those of the vascular system, and that a full recognition of this principle will help to place the treatment of some inflammatory diseases on a more certain basis than at present exists. I believe, farther, that in certain inflammations, the nervous derangement alluded to frequently takes precedence of that of the vascular system, and that being more deeply involved, it should, therefore, get our more special attention. Hence, as it appears to me, we have a rational explanation of how it happens that the same disease—as, for instance, acute rheumatism—may, and has been often cured by very opposite modes of treatment.

ART. 5.—Coma from Retained Biliary Secretion.

By W. H. RANKING, M. D., Cantab.

(Prov. Med. and Surg. Journal, May 3, 1848.)

Dr. Ranking was called about eleven at night, three months since, to the son of an innkeeper, aged 13. It appears that he had returned from school a few days previously, and had gone to bed in apparently his usual health, at ten o'clock. About half an hour before Dr. R. saw him, he roused the house by a most piercing scream, and upon his mother reaching his room, he was discovered sitting up in bed, screaming loudly, and staring with an intense expression of terror into a corner of the room.

Dr. R. found him in this condition, and uttering piercing screams. The countenance was flushed, the eyes glistening, the pulse natural in volume, but a little quickened. He took no notice whatever of any one near him, but continued to stare wildly in one direction, in spite of every attempt to attract his attention. He had vomited once. While Dr. R. was making inquiries as to the antecedents of this formidable condition, he slowly fell upon the bed, and in a few minutes was in a state of complete insensibility. Leeches and calomel were immediately sent for, and in the mean time had him raised up, and kept a continual stream of cold water upon the head, first removing the hair; mustard cataplasms were also applied to the calves of the legs. As soon as they arrived a dozen leeches were applied to the temples; and ten grains of calomel were also put upon the tongue, to be repeated in two hours. Dr. R. staid with him an hour, and left him with returning consciousness, the leeches having bled freely, and the cold douches being continued at intervals of a few minutes. At ten in the morning he was perfectly collected, the bowels had been freely purged, an immense quantity of dark offensive bile having passed. He required no further treatment.

The writer's first impression on seeing this case was, that it was an instance of the sudden invasion of meningitis, an opinion which might have been countenanced by the boy's age, and by the fact that he had lost two brothers, or a brother and sister, of "water on the brain," and was himself of sturmius aspect. But the rapid supervention of complete coma, and the absence of convulsions, at once disabused him of this view of the case, and he had, therefore, no hesitation in attributing the symptoms to sudden congestion of the brain, induced either by the presence of indigestible matter in the stomach, or by the retention of vitiated secretions elsewhere. The age was against the probability of the congestion being due to disease of the cerebral blood-vessels, as was his aspect against the suspicion of the agency of general plethora. Dr. R. states, however, that, under the urgency of the symptoms, and the clearness of their indications, he felt inclined to leave the pathology to be determined by the progress of the case. The first object was to relieve the cerebral vessels, which was done effectually by the combined effects of leeching, and the cold douche, the latter especially; the second was to remove the exciting cause, which, as the stomach had been freely evacuated, was judged to be seated in the intestines. This was accomplished by the calomel. Many, the writer observes, would have used the lancet freely; and, as the result proved, by so doing would have inflicted a very unnecessary loss of blood—a loss more easily produced than remedied. The cold douche would, he is convinced, if properly applied, in many cases of threatened apoplexy, puerperal convulsions, &c., completely obviate the necessity of the wholesale blood-letting, too often indulged in in such cases; often, he believes, from the convenience with which the lancet is applied, and the little trouble it involves.

The result of this interesting case will, the author thinks, justify the diagnosis at the head of these remarks, the proximate cause of the symptoms being cerebral congestion; the remote cause, the retention of the fetid cystic bile which was dislodged by the calomel.

[For some excellent remarks on the production of coma by retained secretions, &c., the reader is referred to a paper by Mr. Corle, (Medical Times, Oct. 9, 1847; or Half-Yearly Abstract, Vol. VI, p. 85.)]

ART. 6.—Head Symptoms from Overloaded Bowels.—[The annexed case appears to be similar to the above.]—A little boy, about ten years of age, on awaking one

morning, complained of intense pain in the head, and soon afterwards he began to vomit, the sickness recurring at short intervals. About ten, he had a fit of an epileptic character, which lasted seven minutes, and within half an hour a second occurred, of the same duration. He was seen in the afternoon for the first time. The child was quite delirious, and did not appear to recognise his mother when she spoke to him. On being asked by the writer where the pain lay, he pointed to different parts of the room. The face was flushed, the eyes red and suffused, the skin hot and dry, the tongue furred, with a red tip and edges; the pulse beat 120 in the minute, and was of a full and sharp character. The vomiting had now ceased, and as the bowels had not acted during the day, three grains of calomel were prescribed, to be followed in two hours by a full dose of castor oil, intending to order a depletion of some kind when these remedies had well operated. At his visit in the evening, the writer found him on the close-stool, having just given passage to an enormous semifluid evacuation, which would have been large even for an adult; the motion was healthy in appearance, and had no unnaturally foul smell. The child was now quite rational, its face calm, its skin cool, and the pulse soft, though still frequent. There was no complaint of pain, except a slight griping in the bowels. During the night two full-sized motions, of a similar character, occurred. In the morning he was found well, and so he continued.

Prov. Med. and Surg. Journal, April 19, 1848.

ART. 7.—Acute Chorea, terminating fatally in sixteen days. By F. J. BROWN, M. D., Assistant-Surgeon, R. N.

(Condensed from MS.)

William Tanner, aged 22, admitted into Haslar Hospital, under Sir John Richardson, 17th July, 1846. He had previously been, for a few days, in the Infirmary of the Royal Marines, at Portsmouth, where he was purged and bled for cerebral symptoms, as headache, vertigo, with pain in the right hypochondrium. When admitted into Haslar he was cold and collapsed, with feeble pulse, 78. Under the exhibition of wine and water reaction ensued; the pulse rose to 84. Considerable jactitation, short cough, and perfect consciousness. Eighteen leeches were applied to the chest, and antimony and calomel exhibited.

18th. Had slept well, but complains of headache and pain in the right side. Scalp shaved and blistered. In the afternoon tossed his head about, and complained of pain in the occiput, pulse 72; strangury from the blister, which was relieved by mucilaginous drinks. Eighteen leeches to the nucha next day; considerable fever, with convulsive agitation and throwing about of the body and limbs. Two thirds of a grain of tartar emetic every four hours. At night the convulsive movements are great, and increased by the approach of any one to the bedside. Consciousness perfect. No tenderness of the spinal region; pulse 80.

21st. Jactitation was continued; no sleep last night. Liq. opii sedativ. ℥ 60, in three doses, procured sleep. The struggling comes on in violent paroxysms, but is never still except while sleeping. He spits with violence about his bed. In the evening, the convulsive movements excessive; he draws up his legs and kicks them out with force. Mouth and nose retracted to a great degree: (risus sardonius—Ed.) Mind now slightly affected during the paroxysms; pulse 80.

22d. Movements so excessive as to require a strait-jacket. Belladonna rubbed into the spinal region. Flatulence great, for which draughts of Sp. ammon. fetidus were given. Croton oil caused immediate vomiting.

25th. Has continued much in the same state; this evening looks wild, and has daubed himself with his faeces. "His mind is diseased, he is raving, and constantly pulling his person about." Removed to the lunatic department.

From this period the patient became more and more exhausted, the involuntary movements continuing until near his death, which took place on the 29th July.

Post-mortem, 17 hours after death.—The body presented a mass of abrasions, produced by his struggling and throwing himself about the room.

Cranium. Brain healthy, slightly congested. Sinuses of the dura mater full of blood. A large coagulum in the left lateral sinus. Veins of the corpora specula

congested; membranes about the pores also congested. Half an ounce of serum at the base.

Spinal cord. Firm and healthy; arachnoid investment and subjacent tissues presented numerous red streaks, and at the apertures at which the nerves passed out, exhibited an inflammatory redness; an ounce of fluid in the canal.

Thorax. Old pleuritic adhesions on the right side; lungs healthy; heart normal, or nearly so.

Abdomen. Liver enlarged, fatty; spleen fatty; kidneys healthy. Stomach empty, also healthy. Sigmoid flexure of the colon highly congested. Small intestines deeply congested; the ileum contained three invaginations. No other diseased appearance.

[Upon this unusual case the narrator makes the following reflections]:—

Reflections.—The following considerations occur to the reader of the preceding details. The subject of the disease was a healthy young man. He had been nineteen months in the marines, and was therefore neither a recruit, affected by the sudden change of life that necessarily follows enlistment, nor an old soldier, with a constitution impaired by excesses. He had never been in a foreign climate, and he was noted as being temperate and of good character. He had lately returned from Ireland, and was thought to be labouring under some trouble of mind. His illness must be considered as commencing six weeks previously to the 13th July, when he was suddenly seized with vertigo whilst on guard at head quarters. He continued to do duty after a few days' intermission, but found himself daily losing control over his lower extremities, and he experienced considerable weakness in them.

When he presented himself at the infirmary, his chylipoietic organs were in a state of derangement as regards their functions, and the nervous system was disordered; whilst the vascular system was unaffected.

There is no report of the condition of his stomach and bowels on his first seizure. The giddiness, and weakness of his limbs, are evidence of both the cerebral and spinal centres being in fault, whether primarily or secondarily cannot now be determined. His low state of spirits might exist in either case. On the 13th July, the ganglionic system was affected, together with the cerebro-spinal.

From his consciousness being perfect, the cerebral hemispheres may be excluded from consideration, and attention directed to the mesocephalon and its extension, and the ganglionic system.

The absence of vascular and respiratory morbid phenomena until a late period render the primary affection of the cerebro-spinal centres unlikely, whilst the pain in the right hypochondrium, which never ceased throughout the disease, connected with deranged secretions and imperfect natural functions, is an additional reason for not ascribing to those centres the first morbid agency. The quietness of his sleep furnished another reason to the same effect.

The secretion of bile and urea took place during the period he was under treatment; for the former was noticed in matters vomited and in his stools, and his urine was natural in appearance, though he suffered from dysuria.

The deranged secretions were exhibited principally in an extraordinary production of inodorous gaseous matter, and disordered peristaltic actions of the intestines, or inactivity was shown by costiveness; but as the bowels acted easily for the most part, when influenced by medicine, no mechanical obstruction of importance could have existed.

From the dysuria resisting ordinary remedies, it may be ascribed to the condition of the nervous system constituting the disease, but it must be remembered that turpentine and blistering had been used.

The muscular movements were noticed on the 16th July, and had been preceded by somnolency for two days. They ceased only with death, except during sleep, which was perfectly natural and free from any phenomena of disease. The movements were irregular and variable, increased by the approach of any person, and paroxysmal: they were "fidgets" in excess. He was capable of combined movements, such as walking, but could not avoid jerking and irregularly moving his head and extremities, and his trunk also. The muscles of the jaw acted in a convulsive manner; but mastication and voiding of saliva could be performed.

The whole of his muscular movements were uncontrollable rather than convul-

sive. The muscles of the face contracted occasionally so as to alter materially the features. The eyeballs were not distorted or fixed, and the pupils were natural.

If the whole of the medulla oblongata were involved, it would be difficult to explain the exemption of the eyeballs from movements, and a fixed or tonic spasm was not the condition observed anywhere. It is remarkable that the pupils were unaffected, as disorder of the ganglionic system in children frequently produces alterations in the iris. It was noticed that the extensor muscles were most affected.

The cunning expression of his countenance it is difficult to understand, as his mind was not disturbed except at the height of a paroxysm, when it appeared to suffer from excess of misery.

There was an idea constantly present that his bowels were not open. The sensations experienced by him in the abdomen, and continuing after stool, were probably the reason he could not believe that he had had a motion. He felt but little relief, and was probably cognisant of the volvular sensation of intussusception, though he did not complain of such.

Restraint was shown to have an irritating effect on his mind. Singing was a strange symptom. He must have been in great distress, his body being excoriated and his muscles tired.

Was it a condition of the mind succeeding the greatest discomfort sustained for the longest possible time—a state of involuntary comfort and endurance following involuntary discomfort and impatience, as a pendulum moves from one side of its arc to the other? Or was it the musical disposition or state of tune seen in Tarantism?

He never danced, and the effects of music were not tried upon him.

There was altered sensation, which was referred to the extremities of the nerves of the fingers and toes, such as burning; but there was no sensible heat in these parts.

He first complained of feeling ill on the 25th. To that day he always said he was well, but required his bowels to be open, and complained of pain in the right hypochondrium.

The pulling about of his person seemed entirely due to anxiety to get clear of the intense uneasiness that he felt in his abdomen. The intussusceptions might have caused this uneasiness, which, however, might be the consequence of the diseased condition of the spinal cord and sympathetic centres of the abdomen. The intussusceptions produced no mechanical obstruction to the passage of fæces, and no iliac vomiting.

It is probable they were made and unmade several times during the course of the disease, and arose from an abnormal action of the muscular parietes of the intestine, of the same nature as that affecting the locomotive muscles.

Dr. Good's explanation of the formation of the foldings may be called to mind, one part distended with gas, whilst spasmodic or inverted peristaltic action of another part accomplishes the involution. The stimulus of a purgative might enable the ordinary peristaltic movements to overcome those of an extraordinary kind.

In the case under consideration, however, there was no colic to evidence spasm. To this circumstance may be attributed the easy unfolding of the bowel, there being no constrictions.

There was abundance of gas and abnormal muscular action. These together gave rise to involution: but there was no spasm to continue it until feculent masses might obstruct the reduction, or inflammatory effusion cause it to be impossible. In examining the bodies of infants, I have seen two instances of intussusception twice or thrice repeated in the small gut, which had been unmarked by symptoms during life, death having occurred from a different cause. Was the intense congestion of the small intestine due to the intussusceptions?

If so, what caused the congestion of the sigmoid flexure of the colon?

It must be remembered that the patient took strong purgatives at various times. There were no inflammatory products; and he had not, during life, the symptoms of inflammation, viz: hard pulse, nausea, tenderness of abdomen, or obstinate costiveness. There was tenderness of the hypochondrium at the first, but it soon went off, though the pain continued. He died by exhaustion, and his consciousness was perfect.

The post-mortem appearances in the skull and spinal canal were probably effects and not causes of the disease; and I think the same may be said of those in the abdomen.

The sinuses of the skull being congested, and a clot being found in the left lateral sinus, might be expected to have given rise to different phenomena if they were causative. Congestion of the veins of the corpora striata might cause forward movements, according to Serres' views, but it has been noticed frequently without such effects. The congestion of the vessels at the base of the brain, and the serous effusion, half an ounce, are sufficiently common occurrences. The substance of the brain and cord was sound. The amount of fluid in the spinal canal, one ounce, was not abnormal. There was no evidence of inflammation of the meninges of the cord, no products of inflammation.

I greatly regret that Dr. Andrew Clarke, the Pathologist of Haslar, was not at the hospital at the period of this case, as his skill in the use of the microscope would have determined whether there were any exudation-corpuscles or not.

There was no lymph deposited on the membranous surfaces, and no opacity; and the red vessels were loose, and could be moved by the blade of the scalpel laid on flatly.

The analogy of this affection to chorea, in constant, uncontrollable movements of the muscles (except during sleep), aggravated by observation, is so great, as to leave no doubt of its coming under this genus.

Flatulence and tympany were noticed in the earlier forms of chorea that appeared in the thirteenth and fourteenth centuries.

The difference of result betwixt ordinary chorea and the case under consideration, and the short course of the latter, need not excite wonder, when the violence and continuance of the movements be taken into account. Indeed, it is difficult to understand how those extraordinary cases on record,—as of a little girl by Dr. Watt, mentioned in the 'Library of Medicine,'—where revolutions and other movements were continued for months, could have had a favourable termination.

This case appears to me to have been chorea in an acute form, and calculated to illustrate the nature of that disease, which is a morbid condition, non-inflammatory, of the ganglionic and cerebro-spinal centres, not affecting the cerebral hemispheres.

The symptoms are those of disturbed natural and animal functions, whilst the vital remain unaffected.

The mind is liable, in some cases, to some impairment, as might be expected in hypochondriac affections.

The true pathology may be, however, a morbid condition of the ganglionic centres, the animal phenomena being the result of reflex action through the cord.

The treatment employed exhibits the inefficacy of mercury in alterative doses, also of narcotics.

Opium was given in considerable quantities with but little effect, for he slept but nine and a half hours in as many days, and felt no calmative effect from the drug.

As much as 660 minims of laudanum and sedative liquor of opium were administered in ten days, and the cannabis indica was equally ineffectual; as also belladonna rubbed over the spine.

Bleeding and enemata afforded most relief.

It appears to me that, after premising the treatment by depletory measures, steady action on the bowels and chylopoietic organs, by warm purgatives and clysters, together with the use of nervines or metallic salts of copper, silver, arsenic, zinc, or iron, would offer the best chance of success.

Remedies directed to the improvement of the natural functions were strongly indicated; and, secondarily, tone to the nervous system.

If ether had been in use, its inhalation would have been a trial of the narcotic plan of treatment in a form fitted quickly to affect the nervous system.

Chloroform may be an agent of some utility in future cases, for its action has some resemblance to that of prussic acid, producing tonic spasm; and I think it better to apply to practice, in nervous diseases, the axiom, "*similia similibus curantur*" than "*contraria contrariis opponenda*."

ART. 8.—*Chorea treated successfully by Chloroform.*—Mr. Harris, of Botesdale, relates the following:—The patient was in her seventeenth year. The immediate cause which gave rise to her complaint was fright, the system being, doubtless, predisposed to its influence, owing to a chlorotic state of constitution. The ordinary remedies, purgatives, either simply or in combination with one or other of the mineral tonics, constituted the general treatment for the first ten days of his attendance. The symptoms gave, however, no perceptible evidence of any improvement; the involuntary muscular movements of the extremities especially, as well as those of the face (causing the countenance to be at times hideously distorted), continued rather to increase than otherwise, which, together with a constant state of watchfulness by night and day (in spite of opiates), contributed not a little to her exhaustion and suffering.

The Chloroform was used every day for a week, preserving its influence with her on each occasion for about half-an-hour, when the muscular movements became almost magically arrested. Upon recovering from its influence the muscles again renewed their excitement, but with perceptibly diminished intensity of action. The night rest also became good, and opiates were unnecessary. Believing that these beneficial results might be attributed mainly, if not wholly, to the chloroform, Mr. Harris continued its use twice a day for a week longer, extending its influence over an hour each time. It is deserving of mention that medicine was also regularly persisted in.

Lancet, June 3d.

ART. 9.—*A Severe Case of Facial Neuralgia successfully treated by Creasote.* By THOMAS KELLY, Esq., of Donaghadee, Surgeon, &c. Some time since the author was requested by the relatives of a lady who resided in this place to visit her, as she was labouring under a severe attack of facial neuralgia. She seemed to be a person about the middle period of life, and otherwise of a healthy constitution.

Previous to his visiting her, she had been under the treatment of two other medical gentlemen, who had administered various forms of antispasmodics and narcotics, all of which afforded her no relief.

On his visiting her, she stated that she had been several days ill with the present attack, and had suffered under the disease periodically for many years.

A violent paroxysm attacked her in his presence: she fell senseless on the floor. The convulsive twitching of the muscles of the face at once proved it to be a true case of facial neuralgia. Ordered—

R Creasoti, grt. iij;

Macæ panis, q. s. ut ft. pil. iij.

Sig. i. tertiis horis.

In six hours afterwards Mr. K. saw her; no return of paroxysm; she expressed herself grateful, as she had not had so much remission from pain for many days. Ordered—

R Ol. ricini, ʒj;

Aq. menth. pip., ʒj.

M. ft. haustus hora somni.

On the following morning he again visited her; she had one paroxysm during the night, but much milder than before; she had had some chocolate and dry toast for breakfast.

R Rept. pil. ut. heri.

Sumat. i. meridia nocteque.

On the next day there was no return of disease; she seemed quite happy and in excellent spirits. The treatment was discontinued, and it is now more than a year since, and there has been no return of disease whatever.

Dublin Med. Press, Sept. 13th.

ART. 10.—*Remarkable Case of Hysteria.* By R. WEST, Esq., Surgeon.

(*Edinburgh Med. and Surg. Journal*, April, 1848.)

On the 8th of September, 1842, the author was sent for to visit Miss Susannah

A., a slightly-formed delicate-looking girl, aged nearly 12 years; rather tall for her age, with fair hair and complexion. She had for some months before complained of occasional pain in the side, with now and then slight difficulty of breathing. On this occasion the difficulty of breathing was a good deal increased, every inspiration being accompanied with a wheezing noise. The author looked upon the affection as spasmodic, and prescribed accordingly.

Sept. 10th. She felt better; but observing a kind of smile on the patient's countenance, it struck him that the case was one of hysteria, which was proved to demonstration by taking advantage of the involuntary imitation which is characteristic of that affection. Perseverance with antispasmodics was still indicated.

The next evening, September 11th, being Sunday, the author was sent for suddenly, and found his patient in a violent hysterical paroxysm, which, notwithstanding the application of mustard poultices to the nape of the neck and the calves of the legs, continued unabated for more than four hours. This paroxysm was characterised by the ordinary series of screamings, laughings, cryings, chokings, and strugglings with her attendants, being accompanied by the usual inability to swallow. The next evening the fit came on at the same hour, but mustard poultices being applied at once, it lasted only about an hour. This kind of counter-irritation was applied every evening for the remainder of the week, but by the Sunday following, September the 18th, its good effect was almost entirely lost, as the fits had become every evening longer and longer. During this week the different antispasmodics had been given without the slightest benefit, besides blistering the nape of the neck.

Throughout the next week the fits continued to recur every afternoon earlier and earlier; they were also every day longer and more violent, being attended with screamings loud enough to be heard at the distance of a mile; and the patient could not be hindered from frequently running out of doors and exhibiting various strange antics in her father's yard, such as running nimbly along the tops of some palings, and performing similar feats of extraordinary and unnatural agility.

About the 25th of September there began to be a short fit every morning, which at first was only about ten minutes in duration, but gradually increased in length until the 7th of October, when, after an emetic, which was given to her on that day, the morning fit lasted until the time for the afternoon one to begin; and henceforth she had but one series of fits in the twenty-four hours, lasting, at this date, from six in the morning until five in the evening.

On Sunday, the 2d of October, a very marked change took place. In addition to the continued hysterical condition, she began to have, regularly every hour, a paroxysm lasting about ten minutes, in which she lay extended on the sofa, perfectly rigid and perfectly straight. The extensor class of muscles chiefly was excited; the arms were held straight upwards, and there was a continual snapping of the jaws. Dr. Mason Good describes a somewhat similar condition under the name of *ecstasis*. It was not *catalepsy*, for the limbs were perfectly immovable. This state ceased quite suddenly every time; the patient would jump up from the sofa, and, relapsing into the simple hysteric state, would continue running about, laughing, crying, and screaming, until the next rigid fit.

The next Sunday, October the 9th, there was another change. A fit of *ecstasis* came on every hour, in which the position was the same as in the last described; but it was attended with tremblings, and there was no snapping of the jaws; and in place of the latter symptom, she would, every minute or so, raise herself up and knock her head backwards on the sofa three or four times with great violence. We called these *knocking-fits*, for want of a better term. Her relapse into the simple hysteric state from every one of these fits was preceded, first, by a peculiar *curling* motion of the hands, difficult to describe—she looked as if she were *unscrewing* herself—by a sudden turning on the face; and lastly, by a *gasping* motion of the jaws.

On the following Sunday, October 16th, another change took place. And, in fact, it began to be remarked that a change of some kind took place every Sunday, and by this time it was looked for. She had a spasmodic fit every hour, as during the two preceding weeks, but it was now complete *emprostotonos*, attended with a moaning noise, a ghastly grin on the face, and a chewing motion of the jaws, during which it was necessary to place something between the teeth lest she should

bite her tongue; this grin being every now and then exchanged for another form of spasm, in which the mouth was fixed rigidly wide open, and the eyes were staring and unwinking. While in this condition of emprosthotonos, she would make painful attempts to rock herself from side to side. After a day or two had been passed with these fits, we thought of putting her into a child's cradle as soon as the spasmodic state came on, by which means the rocking propensity was easily satisfied, and her apparent distress was much diminished. She came out of every one of these fits by the same process as out of those of the week previous.

The following Sunday, October the 23d, in addition to frequent fits of emprosthotonos, she began to have some *cataleptic* seizures, each of which was prefaced by a strange series of manœuvres. Thus she commenced—after a trembling of the hands and head, by leaping wildly on the sofa, and then rather *flying* than running from one side of the room to the other, returning to the sofa backwards for another fly. Two of her sisters were usually obliged to attend, one on each side of her, during these *flying fits* as we called them, and hard work it was for the poor girls, for they were soon almost out of breath. These flyings, after lasting about five or ten minutes, were always terminated by a sudden dropping of the head on one shoulder. She was then carried off by her attendants to the sofa, in a rigid cataleptic state. Her limbs could be bent, but it was like bending a piece of lead, and in whatever position they were placed so they remained. While lying in this condition, she cowered like a cock during every inspiration. This crowing gradually ceasing, a trembling of the arms came on, which increased in intensity until the movements had the appearance of *epilepsy*. After a few more minutes these movements ceased, and then, after a rapid winking of the eyes, she fell asleep, in imitation of the coma which usually follows epilepsy. After about five minutes of this sleep, she rose up, stretched herself naturally enough, and then relapsed into the hysteric state again.

The author here describes the manner in which the whole series of fits invariably terminated every day at this stage of the affection: "From being hysterical, she would become emprosthotonic for about one hour, being rocked, with the grin on the face. Towards the termination, she would have two fits of *inverted trismus*. Then the *curling* and other movements, described above, would take place; after which she would jump up quickly, snatch a pillow from the sofa, and walk into the kitchen. She would then march seven or eight times round the table, singing all the time, and finishing her march by suddenly jumping like a cat into the cradle. She would then leap up, march round the table six or seven times as before, and jump into the cradle again; for the third time she would repeat her marching and jumping into the cradle; she would then stretch herself out, and commence wringing her hands for a minute or two, after which she would, softly, and in a whisper scarcely audible, mutter "I am better."

To describe the distress of the family at this period would be quite impossible. In addition to the anxiety naturally caused by the anticipation, that, if the disorder continued to advance, so that the series of one day should run into that of the next, it must prove speedily fatal from the total inability of the patient to take any nourishment at all—there was the incessant bustle and confusion, all night and all day, caused by the actions of the unfortunate girl. When not affected by any of the spasmodic fits, there was an under current, so to speak, of hysteria constantly going on with her. This permanent hysterical condition, which was the foundation of the whole disorder, had some peculiarities which are worthy of record. The appearance and actions of the poor girl were quite those of a maniac. She was wont to converse in the most animated manner with those around her, but always preferred the most abhorrent subjects. She had nicknames, abuse, and even blows for every one that approached her, if by either word or deed her capriciousness was at all excited: for example, if any one offered to shake hands with her on leaving the room, she would double her fist, strike him a heavy blow on the face or shoulder, and with an exclamation "You old devil!" run out of the room. All this was so far from being her natural disposition, that she appeared throughout this strange affection to have two distinct and separate existences. In the one, she was a mild, weak, timid, gentle girl, not able to walk or stand by herself; in the other, she was a turbulent, noisy, strong, voluble hoyden, keeping

every one on the alert with attending, now to her caprices while merely hysterical, and now to her entirely involuntary actions when affected with spasmodic movements. These existences were distinct in another sense, for whatever she said or did while in the one state, she had no recollection of while in the other; this recollection invariably recurring with the return of that state in which the particular event took place. This peculiarity was frequently tested, and always with the same decisive result. But the point of dissimilarity between the two states which was of most importance, and which threatened the most serious consequences, as the complaint reached its acme, was the fact that it was only during the natural, or non-hysterical state, that the patient could take any food; that inability to swallow, which, in a greater or less degree, always attends the hysterical paroxysm, being well marked and complete throughout the whole duration of every series of fits. The poor girl's fantastic sayings and doings, while in the hysterical state, reminded one forcibly of the tales of possession of which we read in the Scriptures; another and a malignant spirit appeared to be speaking with the tongue, and acting with the members, of a being who was, in her healthy state, altogether incapable, either morally or physically, of such sayings and doings.

Nothing in the way of treatment had been of the slightest avail in checking the onward progress of the malady. The usual diffusible stimulants, including the fetid gums, were administered, in addition to counter-irritation with mustard poultices and blisters in the first instance, and subsequently with tartar-emetic ointment along the spine. The cold affusion was frequently used. Carbonate of iron, in large doses was given, and oxide of zinc, nitrate of silver, and musk, were successively exhibited as tonics; quinine, as an antiperiodic; and purgatives, and alteratives, and full doses of morphine, were all administered alternately and successively. Thinking it possible that tape-worm was the cause of the irritation, we tried large doses of turpentine. But every thing was either perfectly useless, or, like the emetic, which was given one day with the idea that the shock of it might prevent the accession of the fit, did more harm than good.

On weighing her, it was found that she had lost only four pounds, which was somewhat extraordinary, considering the small amount of nourishment she was enabled to take, and the violent exercise she underwent every day. The manner in which she was in the habit of coming out of her catalepsy, when it did not run into epilepsy, was curious. The stiffness did not entirely cease until she had herself, with each hand, opened one by one all the fingers of the other hand from a semi-flexed position. The first set of fingers was opened slowly, because the hand which was the agent was still cataleptic, and proceeded by pushing itself clumsily against each finger; the other set was opened very quickly, because the hand which was then the agent was freed from catalepsy, and proceeded very dexterously. When every finger was opened, she would frequently exclaim delightfully, "They're all done now!" as she jumped up with a wild hysterical laugh.

Taking a hint from the success which had attended the use of the cradle in relieving the rocking propensity which accompanied the attacks of emprosthotonos, I recommend that a swing should be tried, for the relief of all parties during the flying fits, which were daily becoming longer in duration and more vehement.

Nov. 22d. After three P. M. she has now every day *three* independent epileptic seizures, the first a very bad one; each going off into a disturbed sleep, which is followed by a fit of choking and retching, very distressing to all appearance. The hysterical states, with which these attacks alternate, are characterised by much singing in a low tone, and some screaming and laughing. Some time after the third epileptic fit, she goes off from the hysterical condition into a flying fit. They have got a swing for the flying fits, which answers perfectly. They find that if they delay long in putting her into the swinging or flying motion, her agitation increases rapidly; she appears to lose her sight, not being able to see the ropes of the swing, which she can readily do if carried or led to it soon enough; she also holds her breath in a painful way. This condition quickly goes off when she begins to swing; she becomes quite cheerful, laughs, and seems delighted. After swinging at least half an hour, she suddenly sinks into the cataleptic state, the crowing being very loud, and the mouth drawn alternately from side to side, while making an inspiration. She opens her fingers one by one as described above, and then, after being hysterical again for about half an hour, she suddenly doubles

up into the emprosthotonic state. She was only ten minutes to-day completely free from her fits. She comes to herself every day at half-past eleven, after walking with the pillow as described above, and begins again with a swinging fit, fit succeeding fit all day and all night.

Nov. 28th. Nearly the same as last report. About ten minutes to spare for eating and drinking, but rather inclined to be hysterical at the same time. She has the same daily series of fits. They have counted thirty-one changes in the twenty-four hours, reckoning each hysterical state as a change, but considering the swinging, the cataleptic, and the accompanying crowing fits as one fit, inasmuch as they invariably form one process. The chokings, which now always succeed every epileptic sleep, are violent beyond description, and last a long time. During the choking there is sometimes a cessation for a few seconds, but then the epileptic twitchings take its place, and altogether the epileptic state is so much worse, that to-day the three fits of the afternoon, beginning at three and ending at half-past five, have run into one, that is, another fit immediately following the chokings. She has been observed to sweat very much during the night.

Dec. 2d. A change manifestly for the better. She has had an hour and five minutes free, and, as soon as she came to herself, declared herself better, and said she was sure she should have more time to-day. She missed one of the epileptic fits in the afternoon. Otherwise the same.

Dec. 3d. One hour and ten minutes free. Rather more rational in the hysterical condition, during which she knitted a pair of garters for "the old fellow," as she calls her father.

Dec. 4th. Two hours and a half free. Missed the worst epileptic fit, so that now she has only one instead of three, and the chokings have entirely ceased.

Dec. 5th. Five minutes more. In the swinging fits she is more rational. She says, "make haste to put me in." She can leave the swing and run to the door. The fits of inverted trismus have ceased during the emprosthotonic attacks. She no longer walks with the pillow.

Dec. 10th. Three hours and three-quarters free, having gained a little every day since last report. Came to herself for twenty minutes in the afternoon.

Dec. 11th. Six hours and twenty minutes in her natural state, all in one period.

Dec. 13th. Still six hours and twenty minutes. More rational in the hysterical state, and still more quiet in the swinging fits. When seen at half-past six in the evening, she had just come out of an epileptic fit. She went into the swing at a quarter-past eight; swung half an hour and five minutes. The cataleptic state which succeeded was attended with occasional twitchings, though at the same time the rigidity was still truly cataleptic; the twitchings came on when she was not able to crow clear. She had also several stoppages, or rather holdings, of the breath, during which the face became flushed.* She opened her fingers before relapsing into the hysterical condition, as usual. This day, while hysterical, she sucked an orange and swallowed the juice. She is so weak, when quite right, that she can neither stand nor walk by herself, and looks now somewhat shrunken in the face. She slept for the first time on the sofa last night for three hours after an epileptic fit, that is, not doubled up. This sleep was altogether of a different nature to the short snatches of a few minutes which previously followed each epileptic seizure.

Sunday, Dec. 18. All the past week continued to have from six to six and a half hours free. This day she had eight hours, but it was interrupted by an interval of a quarter of an hour, during which she was hysterical slightly.

Dec. 21st. Still eight hours free. Missed one emprosthotonic fit last Sunday, and another last night, so that she has now only two seizures of this kind in the twenty-four hours. She cast up a sum correctly this morning while in the hysterical state. This afternoon she was knitting after two short swinging fits which commenced the series. Before she sat down to knit she scratched and fought her sisters. She knitted with great rapidity. When right, she is unable to knit or

* These holdings of the breath did not by any means seem to depend on a closure of the larynx, but rather on an apparently obstinate refusal to allow the muscles concerned in expiration to act; the breath escaping at last with quite a burst, when it could be held no longer.

walk, or make the least exertion, apparently from complete exhaustion. Begins to have some recollection, when in her natural state, of events which have occurred to her when hysterical.

After this she continued to gain ground rapidly. There was, generally, a decided change for the better on a Sunday. Every week or so missed one or two convulsive or spasmodic fits.

Feb. 20, 1843. No convulsive or spasmodic fits at all. Hysterical for half an hour.

During this week, Miss A—— daily continued to regain the use of her legs while in her natural state, and she was speedily as well and as strong as ever, with the exception of a slight hysterical attack every evening from half-past eight to nine. Some time in May her father took her to visit an uncle, who resided at some distance. Returning in the evening, they did not arrive at home till after nine o'clock. She had missed her fit. Upon this hint, therefore, we acted. Every evening she took a ride out on a pony, taking especial care not to come in before nine. Once or twice, when she happened, from not knowing the hour, to come sooner, the fit returned. This system was kept up till the days got too short; and then the little hysterical attack returned as before, every evening.

At the end of the first week in the following September, it being exactly a year from the commencement of the disorder, Miss A—— complained of feeling poorly. A few days after, her evening hysteria began earlier, lasted longer, and was accompanied by an epileptic fit. It was feared that her troubles were about to return, but it was a false alarm. The next evening she had no fit at all.

In September, 1844, it being just two years from her first seizure, she had a fit of hysterics, not attended with convulsive twitchings.

Since then she has had no return of her peculiar affection, at least in anything like a periodic form. A piece of ill news suddenly conveyed to her would bring on an attack; but that kind of thing is a different affair altogether. She did not menstruate until she was nearly sixteen; and, since the establishment of that function, she has been entirely free from hysteria in any form.

[The author's remarks on the above case are as follows:]

What was the irritation in this case? If it was uterine, it was strange that it should come on so early, before the average age at any rate; and stranger that the affection should be so much ameliorated, although the patient, having arrived at a proper age, had still not menstruated. And yet her complete restoration at the present date would almost seem to warrant the opinion.

Were the perspirations, which were observed just before the first favourable change took place, critical?

The recovery of this patient, without the aid of medicine or remedial means of any kind, is deserving of notice, chiefly for this reason. It is obvious that, but for the extraordinary severity of the affection, which, in its acme, did not give us an opportunity to try any plans at all, we should have continued to persevere in some scheme or other, and that that plan, whatever it might have been, which we might have been trying at the time when the malady began to decline, would have had all the credit of the cure. Let this be a lesson for us all.

I omitted to mention, and it was scarcely necessary to do so, that the different excretory functions were performed with sufficient regularity throughout, and in either state indifferently.

With reference to the regularity in point of time of the different seizures, and the steady advance and decline of the malady, it is somewhat remarkable that every *seventh* day should have been so noticeable throughout the whole period. Surely there is more than is "dreamt of in our philosophy" in the connexion between the human constitution and the days appointed by Infinite Wisdom for cessation from toil.

Since writing the above, I have had the opportunity, afforded me by the kindness of their distinguished author, of reading two excellent "Essays on the Theory of Convulsive Diseases," by Dr. Marshall Hall. It would ill become me to put forth any remarks, which would have the appearance of contradicting any one of the deductions of so acute an observer, and it is, therefore, with no little hesitation that I venture to observe that I am a good deal staggered by one of the statements contained in these essays.

At page 43 we read: "As a part of the epileptic seizure of the most pathogno-

monic character, I must briefly notice another symptom, . . . it is the *odaxismus*, or bitten tongue, lip, or cheek." And again, at page 57—"But when laryngismus, and especially when *odaxismus* occurs, there can be no doubt that the case is epileptic. This last is the most pathognomonic symptom of this dire malady." (Vide "Abstract," Vol. VII., p. 172.)

Now, in the case above feebly described, not once only, but some hundreds of times, we had this very symptom which Dr. Hall proposes to term *odaxismus*, occurring as an accompaniment of certain seizures of a tetanoid character. I allude to the very frequent attacks of *emprosthotonos*. There was no mistake about this symptom; it was one of those which gave the greatest trouble to the attendants in watching the patient. In the first seizure of the kind the tongue was cruelly bitten; it was seen to be necessary to do something to prevent this, and, therefore, in every subsequent fit, the handle of a tooth-brush was kept in readiness to be thrust between the teeth. When the fits of inverted trismus took the place of this *odaxismus*, the tooth-brush dropped out of the mouth; the same occasionally when sleep came on in the *emprosthotonic* state: it was, consequently, necessary to watch carefully for the return of the moaning, that the tooth-brush might be replaced at the proper time. Miss A—— keeps this brush as a curiosity; the handle is, indeed, curiously worn, and indented by frequent bitings.

If these seizures were *tetanic*, then *odaxismus* may occur in tetanus as well as in epilepsy.

But they were not *tetanic*, they were *tetanoid*, I take it; that is to say, they were *hysteria*, simulating one of the forms of tetanus. *Odaxismus*, therefore, may occur in *hysteria*.

And yet, if the last paragraph quoted from Dr. Hall means anything, it means that *odaxismus* cannot occur in any other affection than genuine epilepsy.

It will not do to say that the *emprosthotonic* seizures were simulated epilepsy, unless it be contended that *odaxismus* by itself, without any other convulsive movement, will constitute the affection. *Odaxismus* is pointedly said to be only a *symptom*. The rocking propensity in these attacks was not by any means a convulsive movement; it was an effort to relieve some uncontrollable sensation, which was effected equally well, nay, better, when the body was moved from side to side by another person, as was done in the cradle. With the exception, therefore, of the movements of the jaw, there was nothing like convulsion present; the whole body was perfectly stiff, the flexor muscles being all contracted.

And again, it must not be said that no conclusion can fairly be drawn from symptoms arising in a simulated affection. The fact of *odaxismus* occurring at all as a simulated symptom, or in a simulated malady, must deprive it of its claim to be a test of the genuineness of any complaint whatever.

Nor would it be right to say that its occurrence in a single case only ought not to be taken to prove anything. The evidence afforded by one affirmative case must outweigh that of a thousand negative ones.

I repeat, that it is with much diffidence that I venture upon these remarks. I make them more by way of inquiry than assertion, as it is possible the matter may be capable of explanation.

Dr. Hall insists much on the fact, that complete laryngismus is necessary to cause epileptic twitchings. Now, the crowings which occurred in my case were specimens of the imperfect kind of laryngismus, which, he says, may occur in *hysteria*; and it is a curious confirmation of his theory, that a kind of epileptic twitching took place in the case, when the patient "was not able to crow clear,"—i. e., when the laryngismus was more complete. It is curious, as showing that even in *hysteria*, to which affection the theory is not applied, *simulated* laryngismus may cause *simulated* convulsions.

SECT. III.—DISEASES OF THE RESPIRATORY SYSTEM.

ART. 11.—*Clinical Lecture on the Varieties of Pneumonia.*

By J. F. DUNCAN, M. D.

(Dublin Medical Press, Aug. 9, 1848.)

Medical writers, in treating of pneumonia, recognize a number of varieties, some of greater, some of less importance in a practical point of view: but all of which it is necessary you should be acquainted with. They may be divided into two great classes, according as the distinctions are drawn from anatomical appearances after death, or the symptoms observed during life. In the first of these must be placed the vesicular, lobular, lobar, and hypostatic varieties; in the second, the regular, typhoid, and latent. At present, I intend to occupy our time principally with the last three of these as bearing more immediately upon the case under consideration. First, then, of regular pneumonia: This occurs usually in the young and vigorous, whose constitutions have been unimpaired by previous excesses, and who are liable to all the exciting causes of ordinary inflammation. It is characterized by high fever, dyspnoea proportional to the extent of lung actually implicated, pain in the chest, a peculiar cough, and occasionally, at least the specific expectoration of pneumonia. These symptoms, from their marked character, can scarcely fail to direct attention to the respiratory organs, and to lead to a careful examination. Anatomically, the disease has been divided into three stages: in the first, or that of engorgement, the lung is distended in volume, and does not collapse on opening the thorax, as a healthy lung ought to do; its density is increased, though it may not absolutely sink in water; it is mottled externally, of a brown red color and dingy aspect; it pits upon pressure, is not so tough and elastic as usual, nor does it crepitate freely between the fingers. On making an incision in the part, a quantity of frothy and sanguineous fluid exudes; the cellular structure is indistinct, and the bronchial ramifications of a brownish red colour, with rusty-looking fluid in them. The appearances now described are often confounded with mere congestions of the lung, the result of a mechanical gravitation of the blood from position during a period of impaired vital energy, and altogether unconnected with real inflammation. The question is important, and sometimes difficult of solution. Gendrin tells us that if a small stream of water be let fall continuously upon the part for some time, all the appearances now described, including the colour, may be made to disappear if they depend upon congestion solely, and the lung will resume the ordinary characters of health; whereas if they depend upon inflammation, the colour cannot be entirely removed, especially from the central portions, though the other alterations in density, permeability to air, and sensible properties may.

A nice point connected with the minute pathology of the disease is to determine the exact seat of the inflammation. The common opinion entertained by the profession has been that it is the parenchyma of the lungs that is essentially involved in pneumonia: and that the difference in the primary seat of the inflammation constitutes the real difference between it and bronchitis. A few modern writers, on the other hand, have maintained that instead of its being a distinct disease, it is really nothing more than a bronchitis affecting the terminal tubes and air-cells. The mucous membrane, in these last, they say, from its extreme delicacy, resembles the ordinary class of serous membranes, and resulting inflammation consequently assumes the character that naturally belongs to such membranes in preference to that which is peculiarly its own.

M. Gendrin, with his usual ability, has endeavoured to determine this point by direct experiment, and the result of his investigations is to confirm the common opinion, that these diseases are really distinct. He injected coloured fluids into the pulmonary artery, and invariably found them to pass readily into the minutest ramifications when pneumonia was not present, but never could succeed in making them enter the vascular network of the cells when it was. You are all probably aware that the lungs are furnished with a double set of vessels. The bronchial, derived from the thoracic aorta, and designed for the nutrition of the organ; and the pulmonary, from the pulmonary artery, which subserve the proper

function of respiration. Now, it is not an irrational idea to suppose that in bronchitis the former set of vessels is principally concerned; and in pneumonia, the latter: and hence the difference between these two affections. Assuming this opinion to be correct, it explains a point of practical experience which has been long known as to the relative value of different kinds of bleeding in the two diseases. In bronchitis, local bleeding, by leeches or the cupping-glass near the root of the lungs, has been found more efficient than the lancet; while in pneumonia it is just the reverse. Of course, I speak merely of the *general* result, without regarding those special circumstances which always modify our statements. Now, if the theory which I have advanced be correct, the local abstraction of blood will relieve the gorged and inflamed bronchial vessels in their neighbourhood more directly than a general bleeding could do, while the lancet, from its effects upon the system at large, must be more suitable to those cases in which the branches of the pulmonary artery happen to be engaged.

In the second stage, the lung is found dilated to its utmost extent; its specific gravity is increased so as to sink completely in water, while it is more solid to the touch, and destitute of the crepitating feel that even in the first is still perceptible. It is of a lightish brown red colour, and somewhat softened, so as to break easily under the pressure of the fingers. If an incision be made into it, the cut surface presents a number of flat granulations, which vary in size, according to the age of the patient, being smaller in the very young than in the old; and still larger in persons who have suffered from emphysema. These are the obliterated air-cells. Of the original structure of the lung, nothing but the larger bronchial tubes is observable: the gorged capillaries having effused their contents, decoloured globulin, serum and fibrin, into all the interspaces: while the decomposed blood within the cells is converted into a coagulated mass of very slender consistency. The time which may elapse before this stage is fully formed varies in different cases, but as a general rule, the younger the subject, and the more vigorous the state of health, the shorter the interval. Two or three days under ordinary circumstances are generally sufficient for the purpose.

In the third stage the density, volume, and want of crepitation under pressure continue as they were in the second, while the softening is more advanced. Disorganization of the lung, however, does not take place, as careful washing prolonged for a sufficient time, is capable of restoring the cellular texture to its original state. The colour becomes of a dirty gray or a lightish yellow. A section exhibits the same granular appearance as the second stage, while a yellowish fluid exudes spontaneously from the surface, or is easily forced out by gentle pressure. Mere exposure to the air will liquefy the coagulated mass that fills the parenchyma of the lung. The time necessary for the production of this stage is even more uncertain than that for the second; occasionally five or six days are sufficient, while at other times weeks may elapse before it occurs. The important point as to the pathology of the disease for you to bear in mind is, that the lymph and fibrine are effused in a fluid state, constituting the first stage; that they coagulate subsequently to form the second; and that they again liquefy to form the third.

Now, in regular pneumonia, each of these stages follows in their exact order: the disease begins below, and gradually travels upwards; it occupies the whole of one lobe before it extends to another, however close the connexion may be. In very young children an exception occasionally occurs, because the membranous septa which divide the pulmonary lobules are relatively denser than in the adult, and hence a separation is more easily effected. From this circumstance disease in them often assumes the lobular variety. The lungs, in fact, appear to present in infants some analogy to the kidney, which you know has a lobulated structure at first, that disappears as the child grows up.

There are several other circumstances connected with this subject into which I do not now enter, as I wish to pass on to the contrast between the regular and irregular varieties of the disease. Each of the three stages has its appropriate physical signs, on which I do not intend to dwell. These are, in the first, diminished amount of respiration; fine crepitating r le; slight dullness on percussion; diminished reverberation of voice to the applied hand; increased vocal resonance:

in the second, bronchial respiration and bronchophony: in the third, large mucocrepitus, or crepitus redux, augmented respiration, and diminished dullness. Now, if the physical alterations in the lung which are the cause of these phenomena, commence below, and gradually proceed upwards till they involve the whole lung, it is obvious that the physical signs themselves must follow a similar course: hence we have three well-marked characteristics of the regular form of the disease. First, symptoms referable to the respiratory organs distinct and well marked; second, regular progression of the stages; and third, the physical phenomena beginning below, and gradually ascending upwards.

The two principal varieties of irregular pneumonia are the typhoid and the latent. Of the former we have happily had no example during the present season, but it differs essentially from that which I have been describing. The best account of it you will find in Dr. Stokes's elaborate work upon Diseases of the Chest. You are not to suppose that the mere occurrence of typhoid symptoms is sufficient to constitute the affection, for you will often observe pneumonia developed in the course of typhus fever, but presenting in every respect, except the occurrence of adynamia, the regular character. Its essential features are the rapidity of its course, the badly-marked gradation of stages, the almost total suppression of initiatory crepitus. The manner in which the whole lung seems to become solid at once, the early period at which suppuration occurs, and (contrary to what, under such circumstances, might be expected) the slowness with which resolution is accomplished, while the large loose crepitus that usually accompanies that change is seldom perceptible. This variety is extremely fatal, but its rarity corresponds to its severity. A few weeks after the work-house was opened I met with a case which terminated fatally about the third day after admission, and on inspection the whole lung formed one mass of suppuration, uniform in extent in all the lobes, and not, as in the ordinary form, more advanced in the lower than in the upper.

Another point of difference consists in the typhoid form being almost always limited to a single lobe, whereas regular pneumonia seldom attacks the whole of one lung, without at the same time involving the other more or less. If to these remarkable features you add the striking fact that the prominent symptoms of pulmonary disease are often absent or obscure, you have a collection of distinctive marks, sufficient to justify the most fastidious in considering it a separate species. I do not at present speak of the treatment suitable to typhoid pneumonia farther than to say that it must differ essentially from that in use in the ordinary form. All antiphlogistic measures, except mercury, and that administered in the mildest but most effectual manner possible, must be laid aside, and the patient's strength supported by tonics, nutritious diet, and wine, according as circumstances will admit.

The latent form, like the typhoid, differs from the regular in not observing the usual law of progression in the stages from below upwards. Sometimes you will find a very small portion of the chest in the second stage, and that not at the base of the lung, but it may be in the middle lobe, and the closest examination elsewhere will fail to detect in the surrounding parts the slightest crepitus, as indicative of the first stage. The principal feature, however, is the complete suppression of the usual symptoms of pulmonary disease: there will be no cough, no local pain, no difficulty of breathing, no expectoration. A physical examination alone reveals the existence of anything wrong with the respiratory organs. In typhoid pneumonia, it is true, you may have the same thing, but it is not invariable, and even when it does exist, it is scarcely matter of surprise. The state of stupor in which the patient is sunk, as well as the complete prostration of all the vital powers, so deaden his susceptibility to impressions both internal and external, that we can readily expect these symptoms should be very obscure, if they exist at all. The case is different under the circumstances we are now considering. In them no reason exists why these ordinary symptoms should not be manifest. Latent pneumonia is apt to occur under two very different conditions according as fever is present at the time or not. In the former, as in children suffering from the exanthemata, the pyrexia that is present, as well as the slight hurry of the breathing, are apt to be set down to the prominent disease, and so the deeper-seated but latent one may escape unnoticed. The same thing frequently occurs

In delirium tremens; the attention of the physician is extremely liable to be directed exclusively to the state of the nervous system, yet it frequently happens that the inflammatory action, commencing in the mucous membrane of the stomach, creeps insidiously upward till a considerable portion of the right lung becomes solidified. What increases the difficulty in this case, is, that the patient is generally incapable of expressing his feelings so as to point attention to this dangerous complication.

But there is one class of cases to which I wish particularly to direct your thoughts, because I do not think it is sufficiently well known, although I can testify, from an extensive observation, that it is common enough; and that is, the frequent occurrence of latent pneumonia in connexion with acute hydrocephalus, and the convulsive affections of children. In this, as in the last instance, the *manifest* appearances are so alarming as to divert all attention from other topics, while in reality the former are essentially caused by the obstruction to the free circulation in the chest. On a multitude of occasions have I noticed this complication in the workhouse, when the two diseases were unfortunately extremely common. But I cannot forbear mentioning the following example, which occurred in the north of Ireland: Happening to be staying for a few days at a friend's house, I was asked to see a little child about a year and a half old, who was said to be ill of water on the brain. The father had lost several other children by this complaint, and was naturally very uneasy at the thought of losing this. On arriving at the place I found all the ordinary symptoms of hydrocephalus well marked, but at the same time discovered it to be labouring under extensive pneumonia of both lungs; treatment directed to this had the happy effect of completely removing all the unpleasant symptoms under which it laboured.

But the same thing may exist when there is no fever present, or as little as in our patient Johnson, where the pulse was 76, the breathing 16, and the skin cool. I have met with an instance in a very little girl about four years old, who was observed, a few days after a slight feverish attack, to have a trifling cough. She was to all appearance perfectly well, free from fever, and in the best possible spirits. On examining her chest, there was one small spot, about as large, perhaps, as a hen-egg, where percussion gave a dull sound, and respiration was nearly inaudible. No crepitus could be detected. By appropriate treatment resolution took place, and she recovered perfectly. Several other cases came under my observation in the workhouse; among the rest a healthy woman by the name of Lacey, about 30 or 35 years of age, a deputy in one of the hospital wards, complained of a pain in the left side. She had no fever, no quickness of breathing, no cough, or expectoration. On examining her chest, I detected dullness over a considerable portion of the anterior part of the lower lobe, which was somewhat tender to the touch. Respiration in the part weak and bronchial; vocal resonance increased. Appropriate treatment here, too, completely removed the disease.

The occurrence of inflammation in this low form unattended by fever, hurry of the breathing, &c.; altogether contradicts the opinion commonly entertained in the medical world, and imposes upon us the greater necessity for physical examination in all doubtful cases. In percussion and the stethoscope, in our hands and ears, we have means of procuring information that eludes the grasp of our other senses, and it ought to be a disgrace to any member of the profession, in these enlightened days, to allow a single case of this kind to pass undetected. But the bare fact that pulmonary inflammation may assume a low unhealthy form is only analogous to what we know occurs elsewhere. Hasse, in his *Pathological Anatomy*, makes an observation that the case of Johnson seems to bear out; that is, that in persons habituated to the use of alcoholic stimulants, the respiration is habitually slower than in other persons, and that in delirium tremens especially this diminution in the frequency of inspiration is most remarkable. In this hospital, where cases of delirium tremens occur so often, you cannot want for opportunities of testing the correctness of this opinion.

In all cases of latent pneumonia I am in the habit of resorting to mercury in doses proportional to the urgency of the symptoms. Tartar emetic appears, to me, much as it is lauded in ordinary pneumonia, to be unsuitable, both because the remedy is too heroic for the low kind of inflammation we have to deal with, and also because the first stage—that to which tartar emetic is peculiarly adapted

—in these cases has passed away before we have an opportunity of recognizing the disease. This, together with local depletion repeated from day to day, as the strength admits, are perhaps the most important means we possess of combating this obscure and insidious affection.

ART. 12.—*Emphysema of the Cellular Tissue following Hooping-cough.*

By U. HERAPATH, M.B., Bristol.

(*Medical Times*, Sept. 2, 1848.)

A child, at eighteen months, was placed under the author's care for hooping-cough. She was ordered four leeches in the sternum, and small doses of tartarized antimony at short intervals.

The bronchitis was controlled in the course of four or five days by persistence in this treatment: the febrile symptoms diminished, and the whoop became more fully formed. The antimony was continued, but at longer intervals, during the whole of the subsequent week, in consequence of which the cough became less teasing and troublesome; and by the 15th the whoop had almost entirely ceased, but the spasmodic cough remained. At this time all fever had vanished; the child had lost its appetite, and its strength had considerably diminished; the pulse was small, weak, and rapid; the respirations were very short and frequent; more dyspnoea existed than the symptoms warranted; but little mucous r le remained; the face was pale and exsanguine; the lips almost white.

I prescribed one grain of the citrate of iron and quinine three times a day, with a little syrup of lemons.

No improvement resulted; the dyspnoea steadily increased; the auxiliary muscles of respiration were brought into play, but the countenance did not become livid until after a fit of coughing; the chest sounded everywhere well on percussion. I at first attributed this dyspnoea to excitement, until the friends assured me she was always so. The cough was almost nothing at this period; it was readily "smothered" by the child.

On the 17th of August, after a more than usually violent fit of coughing, a swelling made its appearance in the neck just over the sternum; the depression between the origins of the sterno-cleido-mastoids disappeared, and was converted into an enormous goitre in shape and appearance; but the boundaries were more diffused and extensive than this disease usually assumes. I saw it some hours after its origin. It then appeared very prominent and diffuse; the inferior extremity stretched downwards over the first and second bones of the sternum, and terminated in an acute point; from hence the two external margins took a curvilinear direction upwards and outwards to the middle of the clavicle on each side, so that the tumour had a triangular appendage to it inferiorly; this appendix was elevated above three-eighths of an inch above the surface of the surrounding skin.

Above the sterno-clavicular articulation it was a rounded prominent tumour, extending even up to the larynx, and outwards to the margins of the sterno-mastoids on each side; it had a very transparent appearance; "it looked watery," as the relatives expressed it, but the decided crepitant feeling experienced on handling it at once declared it to be air in the cellular tissue; in fact, emphysema! Whence came this I was at a loss to conjecture. It was probable that one of the muciparous follicles of the trachea had ulcerated through all the coats of this tube, and permitted an escape of air under the fascia. The dyspnoea rapidly increased, as also did the swelling: it at length extended to the ramus of the lower jaw; the face became livid, and the extremities cold; the child gradually passed into asphyxia, and died quietly on the 19th of August, at ten A. M.

A carefully-conducted post-mortem was made on the 21st. Decomposition had not commenced.

The dissection of the neck clearly showed the air to be in the cellular tissue, beneath the deep cervical fascia, and around the trachea. The whole of the cellular tissue here was emphysematous, and it passed downwards behind the sternum into the anterior mediastinum, the cellular tissue in which was excessively distended by air. The lungs were also broken up by emphysematous dilatations; the upper lobe on the right side was most extensively disorganized by it; many of its cells were as large as currants and grapes, and all of them were larger than

natural. Air was proved to pass from the root of the upper lobe of the right lung into the anterior mediastinum, behind the pleura; therefore, one of the distended emphysematous lobules at the root of this lobe must have given way, and allowed the air to escape into the cellular tissue in the manner described. The other organs of the thorax and abdomen presented no appearance worthy of remark; they were all anemic. No air existed in either of the pleuritic cavities.

This case is an interesting one—the rarity of its occurrence makes it especially worthy of note. Upon reference to Dr. Copland's 'Medical Dictionary,' I find that emphysema of the cellular tissue of the neck has already been noticed to occur, by two reporters, after whooping-cough. Not possessing the original communications, I am unable to say whether both these cases were fatal; but from the urgent dyspnoea in this particular instance, and the irremediable nature of the injury, I must presume that it is almost impossible to be otherwise than a very fatal accident. The peculiar shape of the tumour is at once indicative of the affection; I should now have no difficulty in recognising it again in a moment. It is evident to every anatomist that this peculiar shape is owing to the attachments of the cervical fascia to the various salient points about the neck, which, of course, did not permit the air to insinuate itself under the fascia in these positions. I greatly regret that auscultation was not practised upon this little patient's thorax to elucidate the cause of the dyspnoea on the 15th. Had I done so, the condition of the lung would have been detected, and the cause at once revealed. It would have been impossible, however, to have foreseen this accident; in fact, I should never have expected it, as, until the present case happened to me, I was perfectly ignorant of its existence.

ART. 13.—*Case of True Pneumonic Abscess.*

By Dr. JAMES F. DUNCAN.

(*Dublin Medical Press*, July 26, 1848.)

[The rarity of true pneumonic abscess may be inferred from the fact that Laennec has met with but five or six examples, Andral with only four, Romkaud, Gendrin, and others with but one or two. As an instance, therefore, of an unfrequent pathological condition, the following case is worthy of record, independently of the judicious remarks by which the clinical history is accompanied.]

A labouring man, *æt.* 42, was admitted into the Wicklow County Hospital in January, 1848, complaining of total inability to swallow, with urgent dyspnoea. He had got wet at a fire in the previous August, after which dysphagia came on gradually.

Under the idea that he had aneurism, Dr. Duncan submitted him to a careful auscultation, which determined him upon refuting the opinion. Dr. Duncan thus proceeds:]

Having dismissed the idea of an aneurism from my mind, it became necessary to prosecute the examination of the case further, with a view of ascertaining the true nature of the complaint under which he was labouring. The first symptom that arrested my attention was the extreme fetor of his breath: it was so offensive that it was almost impossible to stand near him, even for the purpose of making an examination: it had, in fact, quite a gangrenous character. Like many other patients similarly circumstanced, he was not conscious of it himself, but he admitted that it had been noticed by others. It was not, however, constant, but seemed to be connected with his expectoration rather than with his breath. It was only when he coughed up some of the matter that this intense fetor could be observed. This is a point deserving attention, as assisting to distinguish gangrene of the lung from pneumonic abscess. Many persons confound these two affections; but they are really distinct, and the diagnosis is of great importance. Gangrene is much more common than abscess, but the latter is more amenable to treatment. When a patient is attacked with gangrene, his breath has the characteristic odour which never leaves him but with life; but in pneumonic abscess, though the breath is occasionally fetid, yet as this depends upon the expectoration, it is only when he has just spit up, that the symptom is perceptible.

The other symptoms of his case were these: complete dullness of the lower half of the right lung, which was found on measurement at the level of the mamma

to be half an inch larger than the left; the dullness became greater the nearer the base of the lung that percussion was practised; there was marked bronchophony, almost amounting to egophony, in the posterior portion of the dull part of this lung, while in the anterior, respiration was entirely suppressed. In a circumscribed spot, about three inches below the right axilla, and on a level with the right nipple, cavernous respiration, with gurgling and metallic tinkling, was detected; the cavernous respiration was extremely well marked; the other phenomena, though sufficiently distinct, were less intense; a little above this situation, pectoriloquy in a most perfect form existed. The intercostal spaces were everywhere manifest; the voice reverberated naturally except in the dull portion; his body was greatly emaciated; his pulse 116, and very weak; he had no diarrhoea nor night sweats, and his cough, which was trifling, was not troublesome except at night.

The physical signs just enumerated naturally pointed to the existence of pleuropneumonia of the base of the right lung with an abscess deeply seated in the middle lobe on a level with the nipple, and about three inches below the axilla. This diagnosis thus made, and which was verified at the autopsy, was written down the next day on the patient's card—a circumstance particularly fortunate, as these happy hits are so often made or mended after the revelations of the dissecting-table.

But, to return. These signs, so obvious on the first day, became less distinct subsequently, inasmuch that a superficial observer listening for the first time would have some doubt as to the reality of their existence. Now, as we know that their production depends upon organic alterations in the lungs, which cannot be removed in any very short space of time, it is plain that when their existence has been once satisfactorily ascertained, we ought naturally to look for their continuing with equal distinctness afterwards. How, then, are we to explain deviation in the present instance? You must have noticed that the abscess, as revealed by dissection, was almost entirely filled by that offensive matter of which I have already spoken; and that it was of a peculiarly tenacious character, so that it did not possess the fluidity of ordinary pus. The consequence of this was, that it could easily choke up the air-tubes leading to the interior, and thus prevent the development of those sounds—pectoriloquy, gurgling, and cavernous respiration—by which the existence of the abscess was diagnosed at the first; and that this was the true explanation of the difficulty was proved by the mere effort of coughing at any time restoring these signs to their original distinctness.

[Having arrived at the conclusion that an abscess existed, the further question arose as to its nature, whether simple or tubercular. This question Dr. Duncan next discusses:]

Let us now suppose that, from a careful examination of the physical condition of the chest, we have arrived at the conclusion that an abscess existed at the spot already indicated, how are we warranted in pronouncing that abscess to be pneumonic and not tubercular? I need not tell you that tubercular cavities are as common as the others are rare, and that the *prima facie* probability is strongly in favour of the phthisical nature of the disease. The situation, indeed, supposing it to be correctly indicated, is not that of an ordinary vomica; but irregularities in this respect are frequent enough to make us pause before resting implicitly upon that point alone.

Let us look a little more closely at the general symptoms to ascertain what light they are likely to throw upon this question, for as the case stands, the physical signs *per se* are incapable of determining it.

Several of these,—the emaciation, the rapid weak pulse, the duration of the complaint, and the chronic affection of the larynx, all countenanced the idea of its being really tubercular; while, on the other hand, several circumstances connected with the case evidently militated against it. If the disease were really phthisis, it was reasonable to infer, from the period that had elapsed from its supposed commencement, as well as from the fact of the existence of a cavity, that it must have been in the third or advanced stage of the complaint, whereas he had neither the perspirations nor the diarrhoea that are the usual accompaniments of that stage. So far the reverse, his skin was hard, and dry, and scaly, indicating a suppression of the natural secretion of the part, and his bowels did not act with-

out the assistance of medicine. I do not lay much stress upon the reputed cause of the man's illness, because it is always difficult to obtain really correct information upon matters of this kind; yet assuming his statement to be well founded, it was a circumstance much more likely to produce an inflammatory affection of the chest than to develop tubercles in a man previously healthy, resident in the country, and arrived at the forty-second year of his age.

I have already mentioned the extreme dyspnoea under which he was suffering, indicated by the rapidity of his respiration, but I have not mentioned that this was attended with marked lividity of the lips, a point deserving consideration from the rarity of its occurrence in consumption. Lividity of the lips, as it commonly appears in chronic bronchitis and emphysema, is the result of the want of the natural proportion between the quantity of blood circulating in the vessels, and the capacity for aerating it possessed by the lungs. Disturbance of the proper relation between these two never arises from mere hyperæmia, because, however great the quantity of blood, the lungs in the healthy state are adequate to arterialize the whole sufficiently. The case, however, is different when the natural structure of the lungs is altered, because then their efficiency as a depurator of the blood is destroyed, and the carbonic element accumulates in the system. Still it is a remarkable fact that in consumption, notwithstanding the progressive disorganization that takes place in the lungs, often leaving a very small portion indeed in a state to fulfil its function, neither lividity of the lips, nor extreme rapidity of respiration, are by any means common symptoms; the reason of which is this, that a diminution in the quantity of the blood takes place at the same time with the destructive process in the chest, and thus the essential ratio of the one to the other continues to be preserved. Regarded in this light, the exhausting perspirations and the protracted diarrhoea are a sort of safety-valve to relieve the system of its superfluous fluids, and to make the descent down the hill of life less distressing to the patient.

Fœtor of the breath is occasionally met with in consumption, though it must be admitted to be comparatively rare. I believe that, when it does occur, it is due to sloughing of the walls and cellular membrane of the vomica, which become detached, and putrefy. The extreme degree, however, in which it existed in Doran's case, was altogether incompatible with such a supposition; and in point of fact it was this symptom that first led me to suspect the nature of the malady, and to search for its proper seat.

But probably the most important argument of all was to be found in the enlargement of the lower part of the right lung, coupled with the consideration that the solidification was confined to that part. Tuberculization, except, perhaps, in some rare cases of acute phthisis, never leads to an augmentation in the volume of the organ. The chronic nature of the complaint in the present instance excludes these few exceptional cases, and hence we were justified in referring that we had not solidification from tubercles to deal with. It is true that anteriorly we had reason to believe fluid existed at the base of the lung, which might account for the enlargement, but even this will not get rid of the difficulty, in consequence of the complete absence of tubercles in the upper lobe. Pleuritic attacks in phthisis (with the solitary exception of that depending upon rupture) are invariably lymph or dry, the reason of which is obvious; they are designed in the economy of nature to act a conservative part, and to guard against internal laceration. Effusion, however, does occur occasionally, but always as the consequence of a sudden giving away of the pleura in some part where this adhesive process has not taken place; the contents of the vomica escape into the thorax, the side is enlarged, the lung compressed, and a fistulous opening, with its characteristic signs, is established. In that case the tubercles occupy the upper portion of the chest, while the lower remains free. Were the lower lobes solidified, the effusion would be restrained; but what is more important, the mechanical condition of the lung would be such as to prevent the injury occurring. The very supposition, then, of the lower part of the lung being solidified precludes the possibility of such an occurrence.

[The differential diagnosis as respects gangrene of the lung is disposed of in the following words:]

The diagnosis from gangrene remains to be discussed. I have already said that, rare as gangrene of the lungs is, it is still more frequently met with than true pulmonary abscess. It occurs sometimes in connexion with pneumonia, but on other

occasions it appears to result from a septic condition of the fluids, the consequence of want and misery, as in the very poor; of neglect, or more probably of depraved habits, as in epileptics and lunatics; of extreme intemperance; and of the introduction of certain poisons into the system, either by inhalation, as in nightmen, or by the bite of insects, as in a case recorded by Carswell. Under all circumstances, it is an acute disease. If you look into Simon's 'Pathological Anatomy,' you will find that he mentions there are but two or three instances known of its occurring in chronic inflammation of the lungs. When it succeeds to acute pneumonia, it appears to result from the intensity of the inflammation occurring in an unhealthy state of the constitution. In this respect our case differed widely from the common features of gangrene. But, further, its occurrence is always attended by a marked collapse of the vital forces, indicated by exhaustion of strength, feebleness, and irregularity of the pulse, change of the features, coldness of the extremities, and tendency to faint. In the present case we had none of these symptoms. He was able to walk about without assistance; his pulse, though frequent and small, was regular; his countenance had a natural appearance, and, so far as he was able to swallow, his appetite was good.

I need not tell you that the prognosis in this case was from the first of the very gravest character. A man breathing from forty to forty-four times in the minute, with a pulse varying from 116 to 120, and extremely small, who had been six months ill, and who was scarcely able to swallow anything, was not likely to be materially benefited by anything we could do for his relief. All that could be done was to support his strength by wine, porter, strong animal broths, and whatever other nourishment he could take. External friction, with mercurial ointment, seemed the only remedy certainly at our disposal: this was accordingly resorted to; but the attempt to administer hydriodate of potash dissolved in decoction of bark was made, and succeeded better than I anticipated. For two days he appeared to hold his ground, and even to improve slightly: he was able to swallow better; his respiration became less frequent by three or four inspirations in the minute, and his aspect improved. On the third day, however, an evident change for the worse had taken place; the pulse rose to 132, and became much weaker while the power of deglutition failed. The next day he was dead. The dissection revealed a single cavity, capable of holding two or three large walnuts, in the middle lobe of the right lung, deeply seated, and partially filled with matter, having an odour exactly resembling gangrene, or the most abominable fæces. Anteriorly, the side of the lung next the mediastinum was compressed and separated from the ribs by a quantity of citron-coloured serum (about a pint and a half), and posteriorly the two lower lobes were of a grayish-white colour, hard to the feel, and perfectly solid. Semi-organized lymph, evidently of recent formation, occupied the lateral and posterior surface of the pleura, while the anterior was free from it. It is hardly necessary for me to say that these appearances exactly coincided with the physical signs during life.

SECT. IV.—DISEASES OF THE CHYLOPOIETIC SYSTEM.

ART. 14.—*On Ulcerative and Gangrenous Stomatitis.* By Dr. WEST.

(*Medical Gazette*, June 2d.)

[We continue to extract from the valuable Lectures on the Diseases of Childhood, referred to in former volumes.]

Dr. West remarks that *ulcerative stomatitis* attacks the gums and sometimes destroys them extensively; the process is, however, one of ulceration, not of mortification, which distinguishes the disease from *cancrum oris* or *gangrenous stomatitis*.

Ulcerative stomatitis, or *noma*, attacks children who are not robust; and such as have been ill-fed and lived in damp, ill-ventilated situations. The ulceration sometimes makes considerable progress before its existence is suspected, and the attention is only excited by the profuse flow of saliva and fetid smell of the breath. On opening the mouth, the gums are seen to be red, spongy, and swollen, and their edge is covered by a dirty pultaceous deposit, on removing which their sur-

face is exposed, raw and bleeding. The gums of the incisor teeth are usually first affected, those of the lower jaw more frequently than the upper. Sometimes aphthous ulcers, like those of follicular stomatitis, are seen to coexist; but this is the exception. On those parts of the lips which are in contact with the ulcerated gums irregular ulcerations form, which have a similar appearance; sometimes deposits of false membrane take place on other parts of the inside of the month, the surface beneath being red and spongy, and bleeding, though not distinctly ulcerated. If the disease be severe and long-continued, the tongue assumes a sodden appearance, and is indented by the teeth, and the cheek, on one or other side is somewhat swollen, while the saliva, though rather less abundantly secreted than at the commencement of the affection, continues horribly fetid, and is often streaked with blood, the gums themselves bleeding on the slightest touch. But even if left alone, the affection usually subsides in the course of time, though it may continue almost stationary for days or weeks together, and this notwithstanding that the general health is tolerably good. Dr. West thinks that it would be too much to say that this unhealthy ulceration never degenerates into gangrene; but though a very large number of cases of ulcerative stomatitis have come under his notice, he has seen only one instance in which it was succeeded by true gangrene of the mouth. When recovery has commenced, the disease ceases to spread; the drivelling of fetid saliva diminishes; the white pultaceous deposit on the gums, or on the ulcerations of the cheek or lips, becomes less abundant; the ulcers themselves grow less; and, finally, the gums become firm, and their edges of a bright red, though still for a long time showing a disposition to become once more the seat of the ulcerative process, and continuing for a still longer time to cover the teeth but very imperfectly.

Various internal remedies and local applications have been at different times recommended for the cure of this affection. Tonics have been much employed, and the supposed analogy between this state of the gums and that which exists in scurvy has led practitioners to give the preference to remedies supposed to be possessed of anti-scorbutic properties. Lotions of alum, or the burnt alum in substance, or the chloride of lime in powder, have all been used locally with more or less benefit. It was Dr. West's custom, also, to prescribe these remedies in cases of ulcerative stomatitis; but since the chlorate of potash was introduced to the notice of the profession by Dr. Hunt, he relies upon it almost exclusively. It appears, indeed, in his opinion, almost to deserve the name of a specific in this affection; for a marked improvement seldom fails to be observed in the patient's condition after it has been administered for two or three days, and in a week or ten days the cure is generally complete. Three grains every four hours, dissolved in water and sweetened, is a sufficient dose for a child three years old, and five grains every four hours is the largest quantity that he has administered to a child of eight or nine. If the bowels be constipated, a purgative should be previously administered; but there seems to be no form nor any stage of the affection in which the chlorate of potash is not useful. The diet should be light, but nutritious, and quinine or other tonics are sometimes serviceable if the child's health should continue feeble after the local malady has been cured.

Ulcerative stomatitis is an affection of such frequent occurrence, that many instances of it come under Dr. West's notice every year, especially during the damp autumnal months; while it is attended with so little danger, that the only case in which he has known it prove fatal was one in which gangrene of the mouth supervened upon it. *Gangrenous stomatitis*, on the other hand, is a disease so rare, that he has only five times had the opportunity of witnessing it; but so fatal, that in four out of these five cases the patients died. The larger experience of other observers shows an equally unfavourable result, since twenty out of twenty-one cases that came under the notice of MM. Rilliet and Barthez had a fatal termination. The formidable nature of the disease requires that we study it more closely than, considering the rarity of its occurrence, would otherwise be necessary; and it is the more important to do so, in order that we may avoid the not very uncommon error which confounds this dangerous affection with that comparatively trifling ailment, ulcerative stomatitis.

Gangrene of the mouth seldom comes on, except in children whose health has been already much impaired by previous disease, and especially by those diseases

which are connected with important changes in the circulating fluid. Of 29 cases which MM. Rilliet and Barthez either observed themselves, or of which they found mention in the writings of other physicians, only one appeared to be an instance of idiopathic gangrene of the mouth, while in 12 cases the disease followed an attack of measles. Of the 5 cases which Dr. West has observed, and 3 of which he examined after death, 2 succeeded to typhoid fever, 2 to measles, and one supervened in a tuberculous child who had been affected for many weeks with ulcerative stomatitis in a severe form. Though not confined to any one period of childhood, gangrene of the mouth is more frequent between the ages of 2 and 5 than either earlier or later. Of the 29 cases mentioned by MM. Rilliet and Barthez, 19 occurred between 2 and 5; 10 between 6 and 12. Of the 5 cases that came under Dr. West's own observation, 1 was in a child aged 2½ years, 1 in a child aged 3, 1 between 4 and 5, 1 at 6½, and one at 8 years of age.

Although all the tissues of the cheek become involved in the course of this affection, yet difference of opinion has existed with reference to the part in which it commences; some observers conceiving that it generally begins in the substance of the cheek, while others regard the mucous membrane as being the part which is invariably the first attacked. So far as his own observations enables Dr. West to judge, he is disposed to regard this latter view, which is that of MM. Rilliet and Barthez, and of M. Baron, as correct.

The early stages of the affection are attended by scarcely any suffering, owing to which, as well as to the circumstance that the children in whom it supervenes are almost always labouring under some other disease, or in the course of convalescence from it, it is probably due that the malady is often not discovered until after it has made considerable progress. There may for a day or two have been an unusual fetor of the breath, and a profuse secretion of offensive saliva, but the appearance of swelling of the cheek is frequently the first symptom that leads to a careful examination of the state of the mouth. The characters of the swelling of the cheek are almost pathognomonic of the gangrene of the mouth. It is not a mere puffiness of the integument, unaccompanied with any change of its colour, such as is sometimes observed in ulcerative stomatitis, but the cheek is tense, and red, and shining; it looks as if its surface had been beameared with oil, and in the centre of the swollen part there is generally a spot of a brighter red than that around. The cheek feels hard, and is often so unyielding that the mouth cannot be opened wide enough to get a good view of its interior. The disease is almost always limited to one side, and generally to one cheek. Sometimes, however, it extends to the lower lip, and occasionally it begins in that situation. The upper lip is now and then reached by the progress of the disease, but is never its primary seat. Whatever be the situation of the external swelling, there will generally be found within the mouth, at a point corresponding to the bright red central spot, a deep excavated ulcer, with irregular jagged edges, and a surface covered by a dark brown shreddy slough. The gum opposite to the ulcer are of a dark colour, covered with the putrilage from its surface, and in part destroyed, leaving the teeth loose and the alveolæ denuded. Sometimes, especially if the disease be further advanced, no single spot of ulceration is recognisable, but the whole inside of the cheek is occupied by a dirty putrilage, in the midst of which there are large shreds of dead mucous membrane hanging down. As the disease extends within the cheek a similar process of destruction goes on upon the gum, and the loosened teeth drop out one by one. The saliva continues to be secreted properly, but shows, by the changes which take place in its characters, the progress of the disease. At first, though remarkable for its fetor, it was otherwise unaltered, but now it is no longer a transparent fluid, but receives from the putrefying tissues over which it passes, a dirty, greenish, or brownish colour, and at the same time acquires a still more repulsive odour.

While the gangrene is thus going on inside the mouth, changes no less remarkable are taking place on the exterior of the face. The redness and swelling of the cheek extend, and the deep red central spot grows larger. A black point appears in its midst; at first it is but a speck, but it increases rapidly, still retaining a circular form; it attains the bigness of a sixpence, a shilling, a half-crown, or even a larger size. A ring of intense redness now encircles it, the gangrene ceases to extend, and the slough begins to separate. Death often takes place

before the detachment of the eschar is complete, and it is fortunate when it does so, for sloughing usually commences in the parts left behind. The interior of the mouth is now exposed, its mucous membrane and the substance of the cheek hang down in shreds from amidst a blackening mass, and form one of the most loathsome spectacles that can be conceived; while the horrible stench which the mortified parts spread around, makes the task of watching the poor child as repulsive as it is distressing.

Happily it is not often that the acute suffering of the child occurs to heighten the distress of the sad scene. Usually it has but little pain from the very first, but is generally more drowsy than before, though sometimes the nights are restless; and in those cases in which gangrene of the mouth supervened in the course of typhoid fever, the delirium which existed before, continued unmodified. The pulse grows feebler as the disease advances, but gleams of cheerfulness may sometimes be perceived, even long after the appearance of the black eschar on the cheek has shown the case to be all but hopeless, and the desire for food often continues unabated till within a few hours of the child's death, which generally takes place quietly, though sometimes it is preceded by convulsions.

Since gangrene of the mouth occurs in the course of a great variety of diseases, the only morbid appearances characteristic of it are those which result from the local mischief. On two occasions Dr. West dissected the gangrenous parts very carefully, and the alterations which presented themselves to his notice were precisely the same as have been described by MM. Rilliet and Barthez. The absorbent glands, both superficial and deep seated, on the affected side are enlarged, and the cellular tissue of the cheek is infiltrated with serum, which is more abundant the nearer one approaches to the slough. In the substance of the eschar, the distinction of parts is no longer easy, but with care the vessels and nerves may still be traced; and the reason why fatal hemorrhage so seldom cuts short the life of patients suffering from this affection, is at once explained by the clot which plugs up the vessels for some distance on either side of the gangrenous mass. On one occasion he found the root of the tongue, the tonsils, pharynx, both surfaces of the epiglottis, and about an inch of the œsophagus, completely coated with a moderately firm, yellow, false membrane, about a line in thickness, easily detached, and leaving the subjacent mucous membrane only a little redder than natural. A few patches of a similar deposit existed in the larynx, but not continuous with that in the pharynx. In this case, great difficulty of deglutition had existed for three days before the death of the child. The association of diphtheritis with gangrene of the mouth is, however, an accidental complication, and one of not very frequent occurrence.

The arrest of the sloughing is the one point to which in the *treatment* of this affection the attention of all practitioners has been directed. The small amount of success which has attended their efforts, is partly attributable to the circumstance that the affection has frequently been overlooked, until it has already made considerable progress; in part also to the fact that when recognised, the local remedies employed in order to check the gangrene have either been too mild, or have been applied with too timorous a hand. Unfortunately, too, there is considerable difficulty in applying any caustic effectually to the interior of the mouth,—for not only does the tense and swollen condition of the cheek prevent our obtaining easy access to the gangrenous parts, but the child naturally resists an operation which cannot but occasion it most severe pain. Ineffectual cauterization, however, is useless, or worse than useless; and though every endeavour should be made to prevent the needless destruction of healthy parts, yet of the two evils, that of doing too much is unquestionably less than that of doing too little. It is of importance, moreover, not only that the cauterization should be done effectually, but also that it should be practised early. M. Baron, indeed, speaks of incising the slough in the cheek, and then applying the actual cautery to the part; but I am not aware of any instance in which this suggestion has been acted on with a good result. When once the mortification has extended through the substance of the cheek, the chances of arresting its progress must be very few. As the sloughing advances from within outwards, it is to the interior of the mouth that our remedies must be applied, and since the advance of the disease is too rapid to allow of our trying mild means at first, and afterwards resorting, if necessary, to such as are

more powerful, we must employ an agent sufficiently energetic at once to arrest its progress. Various caustics have been recommended for this purpose, but none appear to be so well fitted to accomplish it as the strong hydrochloric or nitric acid. Dr. West is accustomed to employ the latter, applying it by means of a bit of sponge, or of soft lint or tow, fastened to a quill, while he endeavours, by means of a spoon or spatula, to guard the tongue, and other healthy parts, as far as possible, from the action of the acid. In the only case that he saw recover, the arrest of the disease appeared to be entirely owing to this agent, and though the alveolar processes of the left side of the lower jaw, from the first molar tooth backwards, died, and exfoliated apparently from having been destroyed by the acid, yet it must be owned that life was cheaply saved even at that cost. Some increase of the swelling of the cheek almost invariably follows the application of this agent—a circumstance which may at first occasion unfounded apprehension lest the disease be worse. Twelve hours, however, must not be allowed to elapse, without the mouth being carefully examined, in order to ascertain whether the disease has really been checked, or whether there is any appearance of mortification in the parts beyond the yellow eschar left by the first application of the acid. The cauterization may now be repeated, if it appears necessary, and even though the disease had seemed completely checked; yet reliance must not be placed on the improvement continuing, but the mouth must be examined every twelve hours, for fear the mortification should spread unobserved. During the whole progress of the case the mouth must be syringed frequently with warm water, or with camomile tea mixed with a small quantity of the solution of chloride of lime, in order to free it from the putrid matters that collect within it, and to diminish as much as possible their offensive odour. Should the case go on well, the frequent repetition of the strong acid will be unnecessary, but the surface may still require its application in a diluted form, or it may suffice to syringe the mouth frequently with chloride of lime lotion, or to apply the chloride in powder once or twice a day, according to the suggestion of MM. Riiliet and Barhez. In the last two cases of this affection that came under the author's notice, he likewise employed the chlorate of potash internally, as recommended by Dr. Hunt, but it did not appear to exert any influence over it; and valuable though the remedy is in ulcerative stomatitis, it would, he thinks, be merely trifling with your patient's chances of recovery to trust to it in true gangrene of the mouth.

During the whole course of treatment, another indication has to be fulfilled, namely, to support the patient's strength by nutritious diet, and by the employment of wine and other stimulants, and the administration of quinine, or of the extract of tincture of bark, or whatever form of tonic might seem best suited to the peculiarities of the case.

In conclusion, during the whole progress of the case, the prognosis must be regulated by the state of the local disease, rather than by the urgency of the general symptoms. So long as the sloughing is unchecked, the affection is tending rapidly to a fatal issue, and this even though the pulse be not very feeble, though the appetite be good, and the child still retains some show of cheerfulness.

[With reference to the influence of mercury in producing the disease, Dr. West observes:]

It might seem to you to be an omission on my part if I left the subject of inflammation and gangrene of the mouth without some notice of the supposed influence of mercury in its production. There can be no doubt but that this preparation, even when given in small doses, has in a few instances produced severe pytalism, inflammation of the mouth, loss of the teeth, and necrosis, more or less extensive, of the lower jaw. In some cases, too, the inflammation has terminated in gangrene of the cheek, which has presented many of the characters that we have just been noticing; and under such circumstances inquests have sometimes been held, and blame has been attached to the medical attendant for alleged want of caution in the administration of so powerful an agent as mercury. Now although mercury should never be given without necessity, nor its administration continued without watching its effects most carefully, yet I cannot but regard the supervention of gangrene of the mouth during its use as merely an accidental coincidence, or else as the result of some peculiar idiosyncrasy of the patient, such as has been observed in the adult as well as in the child. During the past nine

years more than 15,000 children of all ages have come under my care, and I have administered mercury to any of them who seemed to require it, but have hardly ever seen salivation follow its employment before the completion of the first dentition, and have never observed that medicine, at any age, produce an affection of the mouth sufficiently serious to occasion me a moment's anxiety.

ART. 15.—*Treatment of Ptyalism by a concentrated Solution of Nitrate of Silver.*—M. Bouchacourt had a patient who became profusely salivated by accident. A borax gargle, alum gargle, sinapisms, &c., had been employed, without benefit, for six-and-thirty hours, when the idea occurred to treat the mercurial inflammation by a solution of nitrate of silver, which was accordingly applied to the base of the tongue, gums, &c., with a camel-hair brush. The caustic caused some burning pain, but after the lapse of a few minutes this subsided. The application was renewed three or four times, when the stomatitis was found to be perfectly cured.

Journ. de Méd. de Lyon.

ART. 16.—*Extraordinary Case of Biliary Concretions.* By EDWARD WILSON DUFFIN, M.R.C.S.—The patient, a man sixty-five years of age, had, on several occasions during the last three years, consulted the author for symptoms that were presumed to proceed from deep-seated subacute inflammation of the liver. He was also subject to dyspepsia. On the night of the 25th of January last, he was seized with vomiting and hiccough, which continued, with only trifling intermissions, for three days. On the third day he vomited about three pints of a fluid like coffee-grounds. Uneasiness in the abdomen, a little to the left of the umbilicus, had annoyed him occasionally for some time, and there was now tenderness in the same situation. There was no jaundice, but he gradually became much emaciated, and at length, without new symptoms, died on the 9th of March. On examination after death, two folds of intestine, to the left of the umbilicus, were found adherent to each other by recently effused lymph, and in an angular pouch-like dilatation of this portion of intestine (the jejunum) a large wedge-shaped concretion was found. The gall-bladder, in its entire length, on its under surface, was found to have been destroyed by ulceration, the edges of the remaining portion being continuous with the edges of a large perforating ulcer in the anterior walls of the duodenum. The duodenum presented two pouches, of one of which the anterior part of the gall-bladder formed the apex. Lodged in these pouches were three large biliary concretions. The length of the four concretions, all of which had bevelled surfaces, was, when they were fitted together, six inches and a half. Their weight was two ounces, five drachms, nineteen grains. The author referred to two similar cases, one related by Cruveilhier, the other by Mr. Blagden, of Petworth, in the "Medico-Chirurgical Transactions," vol. iv. In neither of these cases was the mass of concretions so large as in the present instance.

Reported in Medical Times, &c., June 3d.

ART. 17.—*On Gastrodynia and its Treatment.* By Dr. DICK.

(*Lancet*, June 10, 1848.)

Gastrodynia.—Under the head of Cardialgia we have remarked, that while that affection more particularly signifies pain and heat of stomach, accompanied with heartburn or pyrosis, gastrodynia and gastralgia are but synonyms of a topical, that is, of a gastric neuralgia, in which derangement of the secretions, as indicated by a furred tongue, &c., or inflammatory action, as shown by redness of tongue, by thirst, tenderness at the epigastrium, &c., are not necessarily or even usually present. On referring to my notice of cardialgia I observe that, owing probably to an omission of the printer, remarks on treatment are left out. I shall accordingly introduce a brief reference to it under the present kindred head.

It is needless to remark that, etymologically, there is a distinction between cardialgia, gastrodynia, and gastralgia; that the first means strictly *heart-pain*; the last two stomach-pain. But the fact is that all three are not rarely applied to cases of uneasiness at or near the epicardiac region, in which the stomach itself is

either not affected, or affected only secondarily and subordinately. There can be little doubt that in not a few cases of epigastric uneasiness the seat of pain is not in the stomach, but probably in the splanchnic nerve, while even yet in the thorax, or where immediately after, having passed the crura of the diaphragm, it forms the semilunar ganglion: still more frequently there is reason to believe that the solar plexus, or the left hepatic plexus, is the seat of pain supposed stomachic. On other occasions the upper part of the pancreas, or the intestinal end of the duodenum, are the probable seats.

In other cases, in which the pain is unquestionably in the stomach, and owing to the presence there of irritating secretions, it may yet happen, and happens, indeed, not rarely, that these secretions are not of stomachic origin, but regurgitations from the duodenum, liver, or pancreas—nay, it is not unlikely, or at least, impossible, from the first or upper part of the jejunum. Andral mentions cases of a father and son, with severe cardialgia, accompanied with vomiting, caused by fatal disease of the pancreas.

Such being the various possible origins of cardialgia and gastrodynia, it is evident that the treatment must be correspondingly varied. If there is heartburn, with sour eructations, we try at first a simple antacid, as ten or fifteen grains of carbonate of potash, or, if you will, two or three ounces of some aromatic water. If this is not sufficient, and an alterative alkali is indicated, the carbonate of magnesia may be tried. If the tongue is saburral, and its edges red, the breath heavy, hot, and fetid, the bowels irregular, the urine turbid and high-coloured, and the stomachic uneasiness rather dull than acute, but constant, it is presumed that the gastric mucous surface, probably also the duodenal and jejunal mucous membrane, is in the same condition as that of the tongue,—sub-inflammatorily congested. In this case, if the patient is young and plethoric, the treatment is simple. The compound infusion of senna, with the sulphates of magnesia or potash, until the tongue cleans, and the stomach-pain vanishes, are all that is necessary.

The same symptoms may, however, occur in arthritic and rheumatic subjects and persons considerably past middle life. Here a more cautious treatment is required. The neutral salts are to be avoided. Extract of rhubarb and blue pill must gently correct the secretions and promote excretion, and the infusion of senna must be combined with that of rhubarb and with tincture of cardamoms, or the compound spirit of horseradish. To the extract of rhubarb and blue pill I have often seen advantage from the addition of extract of colchicum, in such proportions of two or three grains of rhubarb plus a grain and a half of blue pill and extract of colchicum respectively.

If the cardialgia arises from the ingurgitation of bile, as evinced by extreme nausea, bitterness of taste in the mouth, and bilious retchings, we ought to commence with the induction of vomiting, and thereafter give draughts, composed of decoction or infusion of taraxacum, with sulphate of magnesia. This last measure is, however, only to be resorted to if the stools are pale and inefficient, and the hepatic region full and tender; for in this case we must presume that the hepatic veins are congested, and require to be stimulated to evacuate their contents. But if, along with bilious vomiting, there are bilious stools, the treatment, after the emetic, should consist of little else than diluents, and should be conducted on the principles elsewhere stated. If the bile be freely and spontaneously discharging itself, there is no use in exasperating the obviously already excited liver by purgatives.

If the cardialgia is flatulent, draughts or a mixture, composed of four or six drachms of the compound tincture of ammonia, and of the tincture of assafoetida, respectively, with six or eight ounces of the compound infusion of senna, will dissipate the cause.

The cardialgia of pregnancy has no cure but parturition. That which is owing to interrupted menses or suppressed hæmorrhoids, long established, must be treated by leeches applied to the anus or groins, by hot pediluvia, and by sufficient but prudent purging. The cardialgia of old subjects, if plainly traceable to suppressed hæmorrhoids, must be treated promptly. Aloes must be given in the purgative, and stimulant suppositories inserted.

Perhaps the last two kinds of cardialgia ought more properly to be considered as cases of gastrodynia or gastralgia, to a brief notice of which we now proceed.

We have stated (arbitrarily it may be, yet conveniently for practice) the distinction between cardialgia on the one hand, and gastrodynia or gastralgia on the other, to consist in the former being attended with more or less inflammatory irritation of the mucous membrane and deranged secretions; the latter to consist simply of a neuralgia in which the tongue, secretions, and excretions need not be, and very frequently are not, deranged. In short, we suppose gastrodynia to be a local idiopathic neuralgia, the only symptom of which is pain, and for which there is no appreciable or very probable cause.

In such cases the treatment must depend on the temperament, sex, and age of the patient. For example, in exsanguine subjects we would give bark and iron; or iron and some aromatic powder, without sedatives or narcotics: in plethoric subjects, especially if young, we would order restricted diet and drink; Seidlitz powders largely diluted; or, if accessible, Seltzer or Vichy water. In cases neither decidedly exsanguine or the reverse, we would order sedatives or narcotics, now with, and now without, the addition of vegetable or mineral tonics. Thus one case might require the various preparations of opium, or hyoscyamus, or conium, or aconite alone, or belladonna, stramonium, cannabis indica, or hydrocyanic acid; another would require one or other of these combined, it might be, with quinine or chiretta; a third might require the narcotics or sedatives in conjunction with metallic tonics, as nitrate or oxide of silver; sulphate or carbonate of iron; sulphate or oxide of zinc; sulphate or ammonio-sulphate of copper; the trisnitrate of bismuth, or the cyanuret of gold.

When the arthritic diathesis is suspected, the cautious administration of colchicum water, blue pill, and colocynth will often succeed.

ART. 18.—On the comparative Efficacy of certain Medicines in Dysentery, and other Intestinal Fluxes of Hot Climates. By Dr. PAPILLAUD, Brazil.

(*Charleston Medical Journal*, July 1848.)

The treatment of dysentery has varied in different epidemics, and inflammation, once considered a cause, is only one form, alteration of secretion another; in the most decidedly inflammatory form, the purely antiphlogistic treatment is seldom sufficient, and often useless. In diarrhoea the indication for sanguine emission is still less frequent—and even if it did exist, the physician is never called in, until the time for them has passed by. In Dr. Papillaud's private practice in France and in the hospitals of Paris, laudanum and starch injections, diet, and the extract of rhatany were usually sufficient, but he found since he practised in South America, that the former were insufficient, and that astringents usually aggravated the disease. In the province in which he lived, intestinal fluxes were very common, dysentery endemic and often epidemic towards the end of the summer. He experimented with castor oil, ipecacuanha, calomel, sulphate of soda; of the vegetable astringents, he tried rhatany and simarouba; of the mineral astringents, lime, acetate of lead, alum, and nitrate of silver; of narcotics, extract of opium and sulphate of morphia; from the results of these experiments, he determined to abide by sulphate of soda and opium, the effects of the other medicines being variable and uncertain. Castor oil does not sufficiently modify the intestinal secretions. Ipecacuanha is used not as an emetic, but as an antidyenteric. Introduced by the rectum, and causing neither vomiting nor purging; it is just as efficacious as when introduced into the stomach. Dr. Papillaud thinks its virtues have been overrated. The preparation and dose are not a matter of indifference. He prefers the infusion of the root, seven to thirty grains to four ounces of water, a table-spoonful every hour, as less provocative of vomiting than the powder. Calomel he rejects as uncertain, sometimes purging, sometimes being inert. The English practice of calomel and castor oil is very unsuccessful. The combination with ipecacuanha, in equal proportions in pills, is more efficacious. Sulphate of soda, he thinks, deserves the praise it received from Bretonneau and Trousseau, acting energetically and most rapidly. One or two drachms dissolved in a small quantity of vehicle, and given in divided doses, usually arrest a dysentery in twelve, twenty-four, or forty-eight hours at the longest. Any acute dysentery which is not suppressed in this time by it, calls for the closer attention of the physician, either as presenting complications, or being of extreme

gravity. No state of the pulse or tongue, counter-indicate its use in small, moderate, or large doses. In twelve or twenty-four hours the bloody stools are replaced by natural ones, the number is diminished to three or four, and the tenesmus disappears. In other intestinal fluxes it is equally efficacious. In only one very severe, advanced case, it increased the diarrhoea; in three, it was without effect. Rhatany and simarouba deceived his expectations. In the greater number of cases an amendment took place after the first twenty-four hours, but disappeared the next day.

Mineral astringents he condemns altogether. They caused violent pain in the stomach and bowels, increased the fever, and were of no benefit. A syrup of lime was only successful in some chronic diarrhoeas without general symptoms.

Opium he considers equal to sulphate of soda, and together they formed one of the most efficacious combinations. He preferred the extract of opium, one grain in three to four ounces of vehicle, given in divided doses, and increased by a grain each day, if necessary; if the disease resist four grains, one grain of the sulphate of morphia was substituted, and progressively increased in the same ratio.

The sulphate of soda and opium were united, both because separately they were so efficacious, and further, because the sulphate of soda, not acting as a purgative, but as a general and local modifier, the action was prolonged by its union with opium, which prevented or retarded its expulsion by the action of the intestines.

Two-thirds of the patients treated by sulphate of soda and opium were cured in twenty-four hours. The maximum duration of treatment was five days, the minimum twelve hours, the average two days. Opium alone gave fewer rapid cures, but the maximum and mean remained the same. Ipecacuanha alone or with calomel gave an average of five days, and a maximum of eight. The deaths were as one in ten; with the former method as one in twenty. With astringents the treatment was inefficacious in half the cases—one fourth died; the duration of the treatment was from five to thirty days. General bleeding was indicated once in every twenty-five cases—local once in every fifteen.

These observations were collected in a province of Brazil, in twenty-nine degrees south latitude, therefore in an extra-tropical, warm region, and if we compare the results there with what occurs in France, we may conclude that the medical power of astringents in this class of diseases decreases in direct proportion to their acuteness and severity, and also in direct proportion to the elevation of temperature of the regions where they prevail.

The summary of his remarks is contained in the following conclusions:

1. Opium and sulphate of soda are the remedies, *par excellence*, in the great majority of intestinal fluxes, acute or chronic, sporadic or epidemic.
2. Either one of these, or both combined, suppress dysentery, without any danger.
3. Ipecacuanha, so much used in these diseases, is not a reliable remedy. When it did cure, it was owing neither to an emetic nor purgative property; it was most efficacious when tolerated; its introduction by enema was useful.
4. Calomel alone was more faithless still; added to ipecacuanha it promoted its toleration and regulated its action.
5. Vegetable astringents were seldom useful, and often hurtful. In the few cases where they are indicated they should be combined with opiates.
6. Mineral astringents were still less valuable, and more injurious than vegetable astringents.
7. The indications for local bleeding were very rare; that for general bleeding occurred only as an exception.

SECT. V.—DISEASES OF THE GENITO-URINARY SYSTEM.

ART. 19.—*Pathology and Diagnosis of Bright's Disease.*

By Dr. JAMES F. DUNCAN.

(Dublin Medical Press, June 28th)

[A clinical lecture on this subject concludes with the following epitome of our present knowledge of the pathology of "*Morbus Brightii*:"]

To explain more clearly the recent discoveries upon this subject, I may mention that it has been satisfactorily proved by Dr. Johnson to be really a fatty degeneration of the kidney, constitutional in its origin, altogether unconnected with inflammatory action, and analogous to fatty degeneration of the liver, but from circumstances hereafter to be explained, infinitely more dangerous in its effects upon the economy.

The three great excretory glands of the human body are, the lungs, the liver, and the kidneys. Each of these has, for its peculiar office, the elimination of an essential element from the organism. Thus: the lungs remove carbon; the liver, hydrogen; and the kidneys, nitrogen. Not that they eliminate these singly or exclusively; various combinations of these elements are formed, but all for the purpose of rendering their removal more easy by the channel that nature has provided for the purpose. Thus, the carbon of the lungs is combined with oxygen, to give it the gaseous form, whereby it is readily carried off during respiration; the hydrogen of the liver is united with carbon, to form the various fatty matters that analysis shows us to exist in the choleic acid and cholesterine of the bile; and the nitrogen of the kidneys is united with hydrogen and carbon to form urea and ammonia. It is true that a quantity of nitrogen has been proved to be exhaled at the lungs, and a quantity of fatty matter is carried off at the kidneys, even in health; but the amount is so small, relatively speaking, that it may safely be asserted that the proper channel for the removal of each is that which I have just now stated. Whenever any of these processes is interrupted from any cause, a noxious accumulation of these elements results, and more or less injury is the consequence. You are all familiar with this in the case of the lungs. You are probably less familiar with it in the case of the liver. If the fatty matters which are composed of hydrogen and carbon be not removed in sufficient quantity, they accumulate in the vascular system, the blood becomes loaded with them, and a deposit takes place, first, into the parts naturally adapted for their reception—the subcutaneous cellular tissue, the omentum, mesentery, &c., and finally into the other parts not at all designed for the purpose—the muscular tissue, the cells of the liver and kidneys, &c., constituting fatty degeneration of these parts. The danger, however, is not equal in these various situations. In the liver, from the lax nature of the cellular matrix, and the facility with which it admits of enlargement, this lesion may exist to a considerable extent, without interfering materially with its proper function. In the kidney, on the contrary, from the dense arrangements of the parts, such a thing is impossible; congestion of the vascular apparatus necessarily results, producing the hypertrophied and mottled appearance which is described as the first stage of the complaint. Subsequently, as the pressure increases, the nutrition of the gland is interfered with, atrophy takes place, and the kidney becomes pale, small, and lobulated. This is the advanced stage.

That the disease is really due to the retention of these fatty matters in the system, and especially to their accumulation in a part unfavourably circumstanced for their reception, is proved not merely by a minute examination of the granular matter itself, but by a variety of other considerations which are worthy of your notice. If a patient labouring under the disease be bled from the arm, and the serum be allowed to separate from the crassamentum, it will exhibit a milky appearance from the presence of oil-globules, which can be removed by digestion in ether. Again, it has been noticed by Dr. Johnson as the result of his post-mortem examinations, that Bright's disease is frequently associated with atheromatous deposits in the arteries, which, you know, are really of a fatty nature, and still more frequently with fatty degeneration of the liver. The pale waxy com-

plexion that patients labouring under this disease exhibit, is perhaps due, not so much to the loss of blood, which is constantly oozing through the obstructed kidneys, as to the quantity of fat which is accumulated under the tegumentary membranes. It is a remarkable circumstance that we do not find emaciation to occur in these cases to the extent that we might naturally expect in so chronic a complaint. But the principal argument in support of this view is that which is derived from microscopic examination of the urine. This secretion properly consists of two parts—the water and the saline ingredients; the former in health is a simple percolation from the open capillaries of the Malpighian tufts; the latter is accomplished by means of epithelial scales, which are detached from the inside of the tubuli uriniferi, and which grow from time to time by an inherent vital action. The mechanism of these parts is admirably contrived to facilitate this process. The stream of liquid in its descent through the tubuli washes away the scales as they are formed, and both mingling together constitute the secretion such as it exists. These scales can be readily recognised by the microscope, as I have pointed out to you on several occasions. In health, they are quite free from any adherent fatty matter, and the fluid contains scarcely a trace of any oil-globules. In Bright's disease, on the contrary, both of these appearances become conspicuous in proportion to the extent of the mischief. In acute nephritis and scarlatina the number of these scales is augmented, but their size is diminished, and they evidently give the idea that they have not arrived at maturity. In the case of our patient, the absence of these characteristic appearances in the urine led me to conclude that he did labour under granular degeneration of the kidney, notwithstanding the many points of resemblance to that disease which his symptoms presented.

Let us now inquire how this theory will explain the operation of those agencies, which are ascertained to be the common producing cause of the complaint. These are, you may remember, intemperance, confinement, and unsuitable food. In fact, it is by the employment of these means that the disease has been artificially produced in animals by Dr. Johnson and others. Intemperance acts by introducing into the system oleaginous fluids of weak power (alcohol being, in fact, a combination of two atoms of olefiant gas and one of water), and perhaps, also, by its peculiar action on the lungs; for it has been ascertained that while the primary effect of stimulating liquids is to accelerate the respiration, the remote effect, on the contrary, is to diminish both its frequency and force.

Confinement and bad air operate obviously by depriving the economy of its proper quantity of oxygen. In health, when oxygen is freely supplied to the system, the carbon is consumed as carbonic acid, and the hydrogen as water. In the circumstances here supposed, these effects cannot be adequately accomplished, and the retained carbon and hydrogen enter into combination, and form fatty matters of various kinds. Innutritious diet, or that which is deficient in animal substances, acts injuriously from the want of nitrogen; for you are aware that ammonia consists of one atom of nitrogen and three of hydrogen—consequently, a free supply of nitrogenous matters must tend powerfully to get rid of one of those elements upon whose existence in the economy this disease depends.

I think it unnecessary to tell you that the treatment of this affection, before the present theory was propounded, was as uncertain and unsatisfactory as possible. The most opposite remedies were recommended for its removal, but the only opinion in which all authorities seemed to agree was in its incurability. Tartar emetic and bleeding, assisted by local cupping, were adopted by some, under the idea that it was a real but peculiar nephritis. Diaphoretics internally, and vapour baths were trusted in by others, under the impression that it resulted from suppressed perspiration; and others again adopted diuretics upon no very intelligible principles, though the general impression of the profession was decidedly against their use.

Now, on the contrary, instead of this confusion, our course becomes easy, intelligible, and simple; and though we may not anticipate success in every instance, we can clearly perceive that there is nothing in the nature of the affection to render it necessarily incurable or fatal. The microscope not only enables us to distinguish real granular degeneration, and those congestions of the kidney which are liable to be mistaken for it; but it enables us to do so at that very period in

the history of the complaint when the diagnosis is important. However dangerous the disease is in the advanced stage, at the earlier periods it is certainly capable of alleviation, if not of cure. The obvious course of proceeding in any such case would be—1st, to remove the exciting and predisposing causes where they exist, such as intemperance, and residence in an unwholesome atmosphere; 2d, to oxygenize the blood by active exercise in the country and in the open air; 3d, to avoid fatty and all other non-nitrogenous articles of food; 4th, to administer alkalies in free doses, which, by their action on the animal fats, will probably render their elimination more easy of accomplishment; and, 5th, to administer purgatives, so as to keep up a tolerably free action of the bowels.

[For an abstract of Dr. Johnson's views, see 'Half-Yearly Abstract,' Vol. III, p. 162.]

ART. 20.—*Ergot in Retention of Urine*.—M. Allier read a communication on the use of ergot in retention of urine. According to him—1st, ergot restored contractility to a bladder which had been paralysed by over-distension; 2d, it has succeeded when other remedies have failed; 3d, it has been equally successful in paralysis of the bladder following apoplexy; 4th, it does not exert any beneficial influence over hemiplegic limbs; 5th, it is useless in retention of urine from enlarged prostate; 6th, the medicine must be given in repeated small doses; but it may amount to a drachm and a half per diem.

[A case illustrative of the good effects of the ergot in retention of urine is related by Dr. Jeffreys, of Liverpool (now of Shrewsbury), in the 'Provincial Journal,' for 1844, p. 44. Dr. Ross, of Cambusmore, in the county of Sutherland, reports a similar case; see 'London and Edinburgh Monthly Journal,' for January, 1844, and 'Provincial Medical Journal,' vol. vii, p. 378. See also Johnson's *Medico-Chirurgical Review*, for July and October, 1839.]

Prov. Med. and Surg. Journal, Sept. 6th.

ART. 21.—*Liquor Potassæ in Strangury*.—Dr. Mulock states that, in three cases of strangury from blistering with cantharides, he found speedy relief from liquor potassæ, in thirty-drop doses every hour. He was led to the use of this preparation from its known effects in relieving irritation of the bladder in other cases. He thinks it may prove an antidote for cantharides taken internally, and suggests that a trial should be made when an occasion offers.

Dublin Quarterly Journal, Aug. 1848.

SECT. VI.—DISEASES OF VARIABLE OR UNCERTAIN SEAT.

ART. 22.—*On the Proximate Cause and Treatment of Gout*.

By ANTHONY WHITE, Esq.

(*Medical Gazette*, Aug. 18, 1848.)

[In the following communication Mr. White gives us the result of his study of gout in his own person; his definition of the disease is comprised in the words of Dr. Holland, as below:]

But first, for the sake of clearness, it will be well to define the actual state of our knowledge as to the intimate nature of gout; and this I think cannot be better expressed than in the following propositions, wherein Dr. Holland has comprised all that is ascertained, or to be strongly presumed on the subject:

1. "That there is some kind of bodily organization disposing to gout, because it is an hereditary disease.

2. "That there is a *materies morbi*, whatever its nature, capable of accumulation in the system, of change of place within the body, and of removal from it.

3. "That though identity be not hitherto proved, there is a presumable relation between the lithic acid or its compounds, and the matter of gout; and a connexion through this with other forms of the calculous diathesis.

4. "That the accumulation of this matter of the disease may be presumed to

be in the blood; and its retrocession or change of place, when occurring, to be affected through the same medium.

5. "That an attack of gout, so called, consists in, or tends to produce, the removal of this matter from the circulation, either by deposition in the parts affected, by the excretions, or in some other less obvious way, through the train of actions forming the paroxysm of the disorder.

6. "That there is an intimate relation between the condition of gouty habit and the functions of the kidneys and liver, both in health and disease.

7. "And that the same state of habit or predisposition which in some persons produces the outward attack of gout, does in others, and particularly in females, testify itself solely by disorder of internal parts, and especially of the digestive organs."*

The opinion that hereditary predisposition to gout consists solely in a peculiar character of the ligamentous and other associated textures, is surely untenable, although it has been advocated by some authors of eminence. The disease, however prone to affect the joints chiefly, is incident likewise to all the other fibrous textures of the body without exception. The constitutional disturbance that precedes its attacks—the many functional aberrations of the assimilating, secretory organs by which it is accompanied—its erratic character, and the rapidity of its transitions from one part to another—are facts tending most strongly to the conclusion that the immediate cause of the malady is not local, but general, and that the vehicle of its diffusion over the whole system can be nothing else than the circulating fluids.

Furthermore, did we suppose that hereditary transmission of gout is identified with a peculiar condition of those solids which are the most frequent seat of gouty inflammation, its active development would then have to be accounted for in one or other of the two following ways: Either the transmitted peculiarity in question is an actual *materies morbi* deposited in the vitiated textures, or it is such a structural peculiarity of the latter as renders them especially liable to the noxious influence of a morbid principle produced in the body by other causes. Either hypothesis leads to the conclusion that gout is a blood disease. The second of the two does this directly and immediately, for it assumes the independent existence of an exciting cause, to be brought in contact with the morbidly predisposed parts through the medium of the circulation; whilst, on the first hypothesis, it is evident that the transmitted *materies morbi* must be taken up into the blood, contaminating its mass, and producing in it effects analogous to those caused by other animal poisons imbibed from without.

But there is another class of solids, namely, those concerned in the functions of organic life, which have paramount claims to attention in every inquiry like the present. It is evident that any inherent vice in one or other of the great chylipoietic viscera must of necessity induce a proportional depravity in the circulating fluids. Reasoning, then, *a priori*, there is nothing unwarrantable in the conjecture that the real *fons malorum* transmitted by the gouty to their offspring is an unwholesome blood-making apparatus. Such a conjecture, I repeat, is by no means improbable, and my own observations and reflections are all in favour of its positive truth.

On the whole, then, we may safely admit that hereditary gout is a disposition to generate a certain morbid matter within the body, whether that disposition be the effect of some abnormal organic condition, promoting its formation or impeding its due excretion, or of some transmitted impurity of blood, which tends, as usual in such cases, to reproduce and continue itself by vitiating the nutritive functions.

The same disposition, but created by other causes, must obviously exist in those cases in which gout occurs as an idiopathic disease. Its individual or ancestral origin is a circumstance which may influence the intensity of its development and its pertinacity in the system, but in no way affects its intrinsic nature. Whether hereditary or not, it presents the same general characteristics, and is of course attributable to the same material agent.

Setting out, then, from this cardinal principle of a *materies morbi* circulating with

*Medical Notes and Reflections, by Henry Holland, M.D., p. 116.

the blood, we have next to investigate its nature and its origin. And here we are struck, on the very threshold of the inquiry, by the close affinity between the gouty and the lithic-acid diathesis—an affinity so remarkable that a very general disposition prevails among medical writers to consider lithic acid as the true gouty poison, and to impute its presence in the system to the impaired action of the kidneys.

As to this latter notion, the arguments adduced in support of it appear to me to be based on a singular misapprehension of patent facts. The discharge of lithic acid and its salts in the urine is a salutary process; and while the kidneys are actively performing such a process, it is strange, indeed, to charge them with creating the offensive matter they only serve to remove. It is not from the presence of lithic acid sediments in the urine of the gouty, but from their absence, that we should be warranted in ascribing to defective action of the kidneys the accumulation of that excrementitious matter in the system. "If the blood was manifestly surcharged with lithic salts or their equivalents, while none such escaped in the urine, then, indeed, we should have reached the end of our inquiry in full assurance that the kidneys were the very matrices of gout. But it is not so in reality; and the most we can venture to assert is, that the renal functions, in common with others, are secondarily affected by the cause, whatever it be, of the gouty diathesis.

I think it the more necessary to insist on this point, as it is one on which so acute and lucid a reasoner as Dr. Holland appears to have fallen into error. "The kidneys," he says, "are evidently the organs of the body upon the disordered or deficient action of which depend those changes in the circulating fluids which have the closest relation to all the phenomena of gout." He would, I think, have been nearer the truth if he had said that the kidneys are, of all organs, those whose secretions afford the most faithful and the most readily discernible evidence of the changes aforesaid.

However intimate the connection between the gouty and the lithic acid diathesis, evidence is yet wanting to establish their actual identity. If the *materies morbi* we are in search of was nothing else than lithic acid, we should naturally expect to find every considerable development of that product followed by a gouty paroxysm. But this is notoriously not the case. It is no uncommon thing to find the urine constantly loaded, during a long period, with lithic acid sediments, without the occurrence of a single gouty symptom; while on the other hand, it is known that the gouty paroxysm sometimes occurs without the existence of an excess of lithic acid in the urine. Instances of this kind, occurring in athenic forms of the disease, have been mentioned by Dr. Todd in the Croonian Lectures for the year 1843:—"I have remarked," he says, "a peculiarity belonging to most of the cases of this kind that I have met with; namely, that the urine does not exhibit the abundant precipitate of lithates which so often accompanies the gouty paroxysm. In some instances there was no precipitate at all; and in others it was very slight. And the specific gravity of the urine was rather below than above the ordinary standard, indicating that no excessive quantity of either urea or lithic acid was held in solution."

The gouty poison, then, is not identical with lithic acid, but is so near akin to it that the chemical and pathological characteristics of the latter may, probably, yet serve as indices to guide us to the discovery of the former.

"Organic chemistry," says Dr. Holland, "has taught us how readily the elements out of which all animal matter is formed are displaced from one combination and enter into others; and how very slight, frequently, are the differences indicated by analysis, between substances eminently noxious to the system, and those indifferent or beneficial to it. We owe, further, to recent experiments, the explicit proof of what simple observation had partly shown before—the remarkable effect upon the whole mass of the blood of minute quantities of certain matters brought into the circulation—leading to the inference of analogous effects from an increased proportion of one or other of its principles accumulating or being unduly retained in the body. . . . These circumstances, now familiar to us, do certainly not identify the material cause of gout with any of the animal excretions just named (lithic acid, urea, the lithic or purpuric salts, &c.); but they tend to concentrate our views towards them, and give a much more specific direc-

tion to future research. The assured connexion of the gouty with the calculous diathesis, the chemical nature of the concretions and deposits in the former, and the evidence that these deposits often become in part a substitute for the more active forms of the disease, all concur in the further sanctioning the same general view. If we cannot affirm that urea, the lithic acid, or other animal compounds circulating in the blood, give cause to the phenomena of gout, under the most cautious reasoning we are at least entitled to assume, with some confidence, that these matters secreted from the kidneys *are the equivalents to gouty matter present in the system*; that they have certain proportion of quantity to each other, and that upon their balance depend all the essential characters of the disease, its modifications being determined by various causes, some of them topical, some belonging to general functions implicated in the effects of this common cause."

I particularly invite the reader's attention to the words above printed in italics. They imply that the morbid development of lithic acid and its salts may be due to the presence of some principle altogether unlike them in sensible properties and chemical composition.

And now we may proceed to deal with the special object of this paper, which aims at determining the primary seat, and the essential nature, of the disease in question. To this end I shall succinctly narrate the course of induction whereby I arrived at those views which I desire to recommend to the candid examination of my professional brethren.

Having endured innumerable visitations of gout, and having had recourse to a variety of medicaments, some of which were fearfully destructive to my general health, I at last set about watching attentively the method which Nature herself adopts for the cure of this disease. Thus it frequently happened, during my forty years' conflict with my hereditary malady, that I submitted to the old plan of patience and flannel, leaving the disorder to run its course, and wear itself out by its own violence. On several of these occasions I was attacked with sickness and vomiting, accompanied by acrid bilious discharges from the bowels; and these evacuations were followed by immediate relief as to every local and constitutional symptom. Sometimes the result was an entire cessation of the paroxysm; at other times the alleviation was more partial; but repeated experience convinced me that the degree of relief obtained was always proportioned to the copiousness of the bilious evacuations. Pursuing this hint given me by Nature, when the spontaneous diarrhoea has been too scanty, I have assisted it with five grains of calomel. These in a few hours produced copious bilious discharges; the gout departed, and I was well again.

The conclusion forced upon my mind by these facts, recurring again and again during a period of so many years, is, that not to the stomach, or the kidneys, or to the impaired functions of any other viscus than the liver, is the cause of gout ascribable.

In corroboration of this view, I may appeal to the character of all those medicaments which at various times have been held in estimation as specifics against gout. One property is common to them all, namely, that of strongly stimulating the hepatic functions. The *eau médicinale*, which was introduced into this country about twenty years ago from France, was a remedy of this class. It was sold in one drachm bottles (this was the dose), and its effects were certainly very remarkable, frequently removing the most painful attacks of gout in one night. The composition of this potent nostrum long remained a secret. It was conjectured to contain white hellebore; and I recollect the physicians of the Westminster Hospital prescribing a vinous infusion of the latter, in one-drachm doses, with great success, as a substitute for the *eau médicinale*. The revived use of colchicum or meadow saffron, which I believe to be the essential ingredient in the *eau médicinale*, has put us into possession of an invaluable antidote to gout; but how does this colchicum act beneficially? Assuredly not on the stomach, which it nauseates; assuredly not on the heart or circulation, which it distresses; but it acts on the secretions of the liver; and long personal experience has taught me that, until the functions of that organ are called into vigorous play, the colchicum is worse than useless.

Latterly it has been my practice to use colchicum in combination with other

medicines. When I was in the habit of taking it singly, my dose was generally about sixty drops of the wine of the seeds, repeated every six hours. After three or four such doses the bowels were acted on; the evacuations had the odour of the colchicum, deeply tinted; scalding bile was passed, and I was well, for I needed no more.

Now, if a spontaneous evacuation of bile operates critically to the relief of the gouty paroxysm; if five grains of calomel produces relief: if just so much colchicum or other medicine produces relief as is sufficient to cause a copious discharge of bile, then is it demonstrated that the diminished or altered state of the hepatic secretion, which is always a concomitant of gout, is not to be classed among the secondary phenomena of that disease, as pathologists have hitherto invariably supposed.

Let A and B be any two phenomena whatever, and suppose that B is never found except in company with A, then will there be reason for concluding either that one of the two is the cause of the other, A of B, or B of A, or else that both are parallel effects of some third principle. But suppose it to be found that, whereas B never presents itself unaccompanied by A, yet A may exist without B, and that when both are present, the removal of the former is invariably followed by the disappearance of the latter, then it will be manifest that A is the cause of B.

The correctness of this abstract reasoning will, I presume, be admitted without question. To apply it to the subject of our present inquiry, we have only to substitute for A and B the phrases "impaired functions of the liver," and "paroxysm of gout."

No writer that I am aware of has ever propounded, or even surmised, the doctrine that the proximate cause of gout is a functional disorder of the liver; and I cannot overcome the astonishment that possesses me when I think that it should have been reserved for me to make such a discovery. The principle, when once divulged, appears so plain and obvious, that it is wonderful it should have been overlooked so long. Such has been the feeling expressed by several of my professional brethren to whom I have communicated my views. Seldom have my conclusions failed in such instances to receive a prompt and full assent, and to elicit from each of my hearers the exclamation, "How is it possible I never thought of that before?" But the history of science is full of examples, showing how inquirers have for ages been shut out by the firmest barriers from the acquisition of precious truths.

The derangement of the liver, which always accompanies the gouty paroxysm, and manifests itself by unequivocal signs, such, for instance, as the pale colour of the *feces*, is too obvious to have escaped notice. Accordingly, writers on the disease have constantly adverted, more or less prominently, to this pathological fact; but they have all failed to assign to it the position it really occupies in the train of symptoms. The tendency of their speculations have generally been to consider the disorder of the liver as consequent upon that of the stomach, whereas the converse doctrine is far more consonant with observation and with physiological principles. Acidity in the stomach is an unfailing element in the gouty diathesis. Now, such a condition of that organ may, undoubtedly, react on the liver, and impede or vitiate its secretions. On the other, we know that a very important office performed by the bile is the neutralization of the free acid, which is always developed in the stomach during healthy digestion, and is, therefore, a constant ingredient in chyme; only assuming a morbid character when it is excessive or otherwise abnormal. Hence, giving two co-existing facts—acidity of stomach, and deficiency or faulty composition of bile—it will be natural to surmise that the former is the effect of the latter, and nothing less than specific proof could justify our adoption of the opposite conclusion.

It is a fact of great importance to the decision of this question, that, however the administration of antacid medicines may alleviate the heartburn and the other distressing effects of acidity in the *primæ viæ*, such remedies never rise above the rank of palliatives in the treatment of gout. They have not the least efficacy in restoring the healthy action of the liver; whilst, on the other hand, whatever accomplishes that object never fails to remove every other dyspeptic symptom likewise.

The liver, then, is the *officina* in which is elaborated the *materies morbi* on which the whole train of gouty symptoms are dependent. What may be the precise nature of that poison I do not pretend to determine. That remains an interesting subject for future inquiry, to which I may venture to hope that I have given a fresh impulse and an increased prospect of success, by defining its proper point of departure, and the direction it should take. The one new leading fact which I affirm as demonstrated, is sufficient to indicate very distinctly the mode of treatment which offers the only rational hope of removing the gouty diathesis, and also to explain the success which has partially attended the various empirical methods which have been adopted for the cure of the disease.

The main object to be pursued towards the effectual cure of the gouty paroxysm, by the removal of its immediate cause, is the restoration of the natural functions of the liver, as indicated by a copious discharge of bile through the bowels. This object may be attained, more or less promptly and sufficiently, by the administration, either of calomel or colchicum, or of some other potent deobstruent of the hepatic system. But here, as in other instances familiar to the minds of my readers, the principle of combining analogous remedies will be found strikingly advantageous. My own practice has long been to rely exclusively for the cure of gout on the following prescription:

R Hydr. chlorid,
Ext. colchici acet.,
Aloes purificati $\bar{a}\bar{a}$. gr. j;
Pulv. ipecac. gr. ij.

M. et fiat pilula quartis horis sumenda.

Two or three of such pills are generally enough to produce a considerable disorgement of the liver, which I then assist with one or two doses of the compound decoction of aloes. By this time the gouty paroxysm has ceased, or much mitigated.

[In conclusion, the author repeats that gout is only a peculiar manifestation of functional hepatic disease.]

ART. 23 — *Treatment of Acute Rheumatism.* By Dr. JAMES TURNBULL.

(*Edinburgh Med. and Surg. Journal*, No. 176.)

In treating acute rheumatism, the first point which I take into consideration is, whether the patient will bear bloodletting from the system or not; and in all cases where the constitution of the patient is of ordinary strength, and the febrile disturbance considerable, with full pulse, and much redness, pain and swelling of the joints, I do not hesitate to direct that twelve or sixteen ounces of blood should be taken from the arm. This prepares the system to receive the full benefit of the medicinal part of the treatment, which is often quite inefficacious until vascular action has been reduced by depletion. When the first bleeding is followed up by other treatment, I seldom find it necessary to repeat it a second or third time; and when the patient is of weak constitution or anæmic, or when the febrile disturbance is moderate, general depletion is neither necessary nor beneficial. After bleeding, I give from five to ten grains of calomel with a grain or a grain and a half of opium, and next morning a purgative draught, with infusion of senna, Epsom salts, calcined magnesia, and half a drachm of the tincture of colchicum. This is repeated every day, or every second day, according to the effect produced, until three or four doses have been taken. Twenty or thirty minims of colchicum are also given with carbonate of soda or magnesia twice or thrice a day, not, however, with the view of purging the patient, that effect being insured by the other means, but for the purpose of neutralizing and expelling by the kidneys the acid secretions generated in the system in rheumatism as well as gout. Besides using opium with the view of controlling the action of calomel, I also give it the form of pill containing one grain, and repeat it twice, thrice, or four times in the twenty-four hours, whenever the severity of the pain or the want of sleep are such as to indicate the employment of this remedy. Patients are

not unfrequently brought to us having the disease in a subacute form, the pain being very harassing, and yet the constitutional disturbance but trifling. In some instances, too, the disease passes into this subacute form after active antiphlogistic treatment has been adopted. In such cases I give opium in the manner described, and purge the patient moderately.

When all acute symptoms have subsided, I occasionally prescribe quinine; but I prefer the iodide of potassium in compound decoction of sarsaparilla, or infusion with gentian, with occasional warm baths.

The three great remedies employed by almost all medical men of experience in the treatment of acute rheumatism will be found to be bloodletting, calomel as a purgative, and opium; and the chief differences in their methods of treatment consist in the extent to which they use each of them, and the precision with which they combine them so as to adapt them to individual cases, and thus attain their object of cutting short the disease. The plan of treatment already described, with the success of which I have every reason to be satisfied, differs from that recommended by Dr. Macleod, chiefly in the more moderate extent in which bloodletting is practised. He observes that, "in well-marked cases of rheumatic fever, within the first week of their onset, and in individuals of the average degree of robustness, from twelve to twenty ounces of blood may be abstracted with advantage, several successive times in the course of five or six days." It more closely resembles the method of treatment recommended by Dr. Latham, who, while he has observed that, by one of these methods singly, we may, in some cases, treat acute rheumatism successfully, recommends a compound of all the three as safer and more successful. "I believe," he says, "that, in the treatment of this disease, and in the same cases, by the judicious use of opium you may spare blood, and by the judicious use of bleeding you may spare opium; that by calomel and purgatives properly administered you may make bleeding and opium less needful, and that by bleeding and opium discreetly employed, you may leave less to be effected by calomel and purgatives."

Endocarditis.—Whenever any inflammation of the valves of the heart has been discovered, the preceding method of treatment has been modified, and, in addition to general bleeding, local depletion by cupping or leeches has been practised, and two grains of calomel with half a grain of opium have been given. Where calomel has been prescribed at an early period in large doses as a purgative, I am disposed to think that local depletion is of almost as much importance as the constitutional effect of mercury; for I have seen several instances in which the system could not be brought under the influence of mercury, and yet where the signs of valvular inflammation entirely ceased, the thickening of the valves appearing to subside along with the inflammation of the joints under the same treatment, and as one of many parts affected by a disease which pervades the whole system, but becomes located in certain parts only, of fibro-serous structure.

It has appeared to me that the small doses of calomel with opium often exercise as beneficial an effect upon the rheumatic affection of the joints as upon the cardiac complication, when the calomel is laid aside immediately upon the system becoming affected. The continued action of mercury upon the system has, however, seemed to me to prolong the disease in a subacute or chronic form in some cases; and my experience coincides, therefore, with that of Dr. Macleod, who states that, at one time, he was always in the habit of giving calomel with opium, but that he repeatedly observed that the rheumatism continued, although the mouth was affected, while it speedily subsided on continuing the narcotic and purgatives without the mercurial. Some have recommended the continuance of the mercurial action for a much longer period than I consider to be either necessary or expedient. Dr. Hope speaks of its employment for three, four, five, or six weeks. I can scarcely, however, think that a valvular murmur, which persists after the mouth has been sore for a fortnight or three weeks, will be more likely to be removed by a prolonged continuance of this debilitating sorbafacient than by the natural absorbent powers of the constitution. In deciding in any case with valvular murmur whether we should bring the patient under mercurial influence, or continue it for a length of time, we should first know if the patient has had any previous attack of acute rheumatism, and should take into consideration

every circumstance which can lead us to form an opinion as to whether the murmur proceeds from recent endocarditis, or from old valvular disease. Dr. Taylor's able exposition of the causes of pericarditis and endocarditis, would seem to show that old valvular disease has been not unfrequently mistaken for recent endocarditis.

ART. 24. *Treatment of Acute Rheumatism by Nitrate of Potash*—[M. Seux confirms the statements of various writers as to the curative powers of nitre in large doses in acute rheumatism. After detailing a case, he observes:]

The dose which it is necessary to exhibit should be at least from four to six drachms a day, dissolved in a pint of ptisan; the dose may be increased to eight or ten drachms, but in that case the quantity of the diluent must also be augmented. In this manner all risk of intestinal irritation may be avoided. With these precautions no unpleasant consequences have followed the exhibition of these large doses of nitre. If in some few cases diarrhoea has resulted, it has in general been readily subdued by the addition of some preparation of opium.

Revue Médico-Chirurg., Avril.

ART. 25.—*On the Remote Causes of Diabetes.*

By WILLIAM WATTS, M. D., Physician to the Nottingham Dispensary.

(*Lancet*, May 20, 1848.)

[Having in previous essays (see Abstract, Vol. I., p. 219) shown that the proximate cause of diabetes is to be sought in some morbid condition of the great sympathetic system, which induces diseased innervation, and consequent imperfect discharge of function in the stomach, Dr. Watts proceeds, in the present series of papers, to demonstrate that the remote causes of the disease are such as are capable of producing this morbid condition of the organic nerves. He observes:]

The remote causes are divided into predisposing and exciting. The hereditary predisposing causes are those which more than any other render the body liable to functional diseases of the assimilating organs, viz: sanguine temperament, strumous diathesis, malaria, &c.; but they are not so powerful in the production of diabetes as are the acquired predisposing causes, which, in the words of Dr. Prout, "are any having a tendency to sap the foundations of organic life, and more especially of the processes of assimilation."

According to the results of my own inquiries, the acquired predisposing causes of diabetes appear to induce it in three separate and very distinct ways. One set acts by primarily inducing active disease of the stomach and other viscera, which, after long continuance, reduces the tone of the organic nervous influence supplied to them, and this terminates in diabetes.

Another set acts by gradually reducing the organic nervous energy to a point beneath that condition which is requisite for the due performance of the organic functions. And the last class of these acquired predisposing causes appears to act proximately upon distant organs, between which and the organic system of nerves there is an intimate relation; and by powerfully influencing the functions of the former, produce a sensible modification of the functions of other organs supplied by the latter.

Diabetes generally results from the conjoint action of several of these predisposing causes, rather than from any applied singly; yet I trust I shall be able sufficiently to illustrate the separate action of the several classes, so as to make the whole subject easy of comprehension.

Of the first class of these acquired predisposing causes, in which the stomach appears to have been subjected for a considerable period to the action of powerful stimulants and irritants, until, at length, its vital power is reduced from too powerful and too long a continued stimulus, the author has adduced several examples in the papers on the proximate cause of diabetes, published in the *Lancet*, vol. ii, 1842-3, p. 66, and also vol. i, 1845-6, p. 438; and he further illustrates the point by the narration of some additional instances.

[Respecting these and the preceding cases he remarks:]

These cases, together with those I have previously given, are amply sufficient to show the action of the first of the classes into which I have divided the predisposing causes of diabetes. Although the production of a general cachectic condition, accompanied by gastric disease as a consequence of the improper use of mercury, is a fact long known to the world, yet I cannot resist making the following extract from Mr. Travers's very valuable work on Constitutional Irritation, as showing how the functions of organic life are affected by the action of mercury:—"Mr. Swann, the accurate and indefatigable anatomist of Lincoln, in the course of his minute researches into the morbid appearances of the medulla spinalis and its nerves, has rarely been enabled to discover vascularity sufficient to constitute inflammation, except upon the semilunar ganglia of the great sympathetic, which, when the system has been impregnated with mercury, he describes both upon the surface and upon the section as most unequivocally inflamed, exhibiting, when compared with a sound ganglion, the appearance of a bloodshot eye as compared with an eye in its natural state, or free from coloured vessels."

When it is thus seen that mercury produces inflammation of the semi-lunar ganglia, whence the nerves spring which are distributed to the stomach, and which mainly contribute to the function of digestion; and when it is borne in mind that, amongst the morbid changes of structure found after death in those who have suffered from diabetes, Dr. Andrew Duncan and Dr. Percy have enumerated enlargement of the solar plexus, there will be little difficulty in appreciating how mercury acts as a remote cause in the production of diabetes.

[The second class of acquired predisposing causes mentioned by the author are those which depress organic nervous power primarily, such as insufficiency of food, the depressing passions, &c. These are likewise illustrated by interesting cases: and the author concludes his essay with the following deductions:]

1. That diabetes is a disease of the function of primary assimilation, of a cachectic character, and that it is a congener of gout and scorbutus.

2. That it arises from the operation of causes of a widely opposite character, some of which have a tendency to produce, and do actually cause, structural changes in many of the chylopoietic viscera, but which structural change is not necessarily connected with the existence of diabetes.

3. That the cachectic condition of the organic nervous influence predisposes to structural changes taking place in those organs which minister to the continuance of organic life.

4. That during the existence of any other serious disturbance in the system, supervening either during the course of, or as a further consequence of, those morbid causes which have induced diabetes, this latter, being only a disease of function, is suspended for a while, and returns on the subsidence of the stronger morbid action.

5. That the generic appellation, diabetes, is not correctly limited to the metallic form, but ought to be extended to the insipidus and the ureosus, into both which it is interchangeable.

6. The diabetes mellitus may exist without either the canine appetite or the extreme thirst being present.

7. That diabetes insipidus (as far as I have hitherto been able to learn) never exists without the coexistence of some increase of thirst.

8. That both the morbidly-increased appetite and thirst are not, as is supposed by Drs. Prout, Elliotson, and others, the consequence of the drain exerted upon the system through increased secretions from the kidneys, but are symptoms of a morbid change in the innervation, distributed to the stomach by the organic nerves.

9. That the changes in the character of the solid constituents of the excretions are indicative of the extent to which the primary assimilating process has been effected.

10. That the deposition of fat in the various tissues of the body is the result of an imperfect assimilation of certain alimentary principles, and that it occurs previously to the stage in which emaciation appears in the downward course of the disease; and also that it follows the emaciating stage as the disease progresses to its cure.

11. That the existence of the fatty stage is common both to the insipid and metallic form of diabetes.

12. That the disease admits of cure, so far as the existence in the urine of the morbid products of mal-assimilation is concerned; but whether the minor degree of gastric disease which existed prior to the diabetes ever completely subsides is a matter of doubt.

13. That as the various form of diabetes result from the action of widely-different predisposing causes, and therefore present different types in different cases, consequently no one plan of treatment can be in all cases successful; but that to obtain the most favourable results, the treatment must be modified according to the character of the type and the period of the disease.

ART. 26.—*Clinical Remarks on Dropsy.* By Mr. CORFE.

(*Medical Times*, May 27, 1848.)

[After the enumeration of views on the function and structure of the kidney, peculiar to himself, Mr. Corfe proceeds to speak of dropsy as follows:]

Dropsy, in its general acceptation, is not a disease, but only a symptom of one, in the same manner that redness, swelling, and heat of the skin are the several symptoms of inflammation of the skin itself. In the present day, when pathological anatomy on the one hand, and chemical investigations into the composition of morbid fluids on the other, have afforded so much instruction to the physician, the nosologist may not define dropsy as an idiopathic disease. Some organ, or a set of organs, becomes deranged in the functions; secretion and absorption are no longer duly balanced throughout the system, and an accumulation of serous fluid exhaled from the capillaries is the result thereof. When this effusion takes place from the capillaries throughout the adipose cells of the whole body, it is known as *anasarca*. When the cells themselves are not broken down or ruptured by the distended fluid, the *anasarca* is brawny, hard, and tense; but, when the accumulated fluid has destroyed the cellular form of the adipose tissue, the *anasarca* is then soft, doughy, pitting, and the skin is shining and glazed. The first-mentioned species of *anasarca* occurs in robust, strong, and plethoric individuals, who labour under no organic disease of the body, and it is the only form of dropsy which really deserves the title of an idiopathic disease, since the precise nature of that disease is not yet satisfactorily elucidated by pathological writers. The second species is almost invariably connected with some morbid changes of structure, and diseased action in the viscera of the body. When dropsy first evidences itself in the legs and ankles, it is usually "cardiac" in its origin; but when it also shows itself in the face and eyelids, in addition to the extremities, it is "renal;" whilst, on the other hand, if it makes its first invasion in the abdomen, it is commonly "hepatic" in its origin; and valvular cardiac disease, with dilatation of the cavities and thinness of the walls of this viscus, betrays itself in an early effusion into the pleural sacs, constituting dropsy of the pleuræ, or "hydrothorax." When an ovum has escaped from its vesicle, and when, instead of passing along the fallopian tubes into the uterus, it has remained in the body of the ovary, distended the gland with its peritoneal covering, and has caused inflammation to be set up in its neighbourhood, the origin of "ovarian" dropsy is at once established.

If the mesenteric glands are the seat of scrofulous disease and enlargement, the obstruction which they offer to the circulation, the deficient absorption and nutrition which attends their increase, give rise to "mesenteric" dropsy; whilst the results of peritonitis, by forming adhesions between this serous covering and the intestines, depriving the latter of that peristaltic motion so indispensably necessary to the healthy action of the alimentary canal, causes "peritoneal" dropsy.

The frequent attacks of ague in early life usually leave some morbid changes in the character of the spleen, whereby the portal blood becomes diseased, the liver deranged, the constitution enfeebled, and "splenic dropsy" is the result.

But as it happens in the vegetable world, that if there is too much moisture on the earth, and no sun to vivify the soil and the plants, or, on the other hand, if there is a long drought, and the continued rays of a vertical sun, vegetation under

neither of these circumstances progresses or flourishes; so in like manner, if derangement of one organ in the animal frame arises, disorder soon pervades the whole body.

We, therefore, find that, whenever any one organ which is essential to life becomes diseased in its structure, deranged in its functions, other organs, sooner or later, are involved in the general disturbance. It rarely happens, therefore, that dropsy, in the abstract sense, continues for any period to present itself as symptomatic of structural disease in one organ only. If the origin of this derangement should spring from cardiac disease, the undue circulation of blood, and the delay of its smaller columns through the hepatic system, will induce diseased liver, and this change may sooner or later bring on splenic and renal disease. Thus it is that a dropsical patient will oftentimes inform us that "Dr. So-and-So told him his liver was affected, whilst Mr. So-and-So declared he had got some complaint in his heart; but his own family doctor, who brought all his children into the world, was quite sure that his complaint lay in his kidneys!" Now, peradventure, on examination of our patient, with some degree of judgment and careful scrutiny, we shall be satisfied that one and all of the three gentlemen are correct in their diagnosis. The patient, it may be, originally suffered from an acute attack of albuminous urine; this morbid condition of the system induced vitiated blood, cardiac disease, and hepatic derangement, from all of which causes dropsey supervened; so that if the practitioner is acute in his judgment, discriminating in his investigations, and cautious in the formation of his diagnosis, he may generally ascertain which was the offending organ in the first instance, and how far disease has made its ravages in this and in other organs that have been subsequently involved in the constitutional disturbance.

[In illustration of the clinical history of dropsey, the author adduces the annexed case as one of somewhat difficult diagnosis:]

A man, about the age of 40, presents himself for advice; his frame is somewhat emaciated, his countenance is pallid, and his features are pinched and shrunken. You observe that he bends the trunk forwards, and that, as he addresses himself to you, the respiratory organs are labouring, the *alæ nasi* are at work, the breathing is hurried, the lips are of a faint leaden hue, and the angles of the mouth are slightly drawn downwards. He shows you his ankles; they are somewhat puffy, but there is no *œdema* elsewhere. His abdomen is full, tense, and somewhat painful about the epigastric region, but there is no evidence of peritoneal effusion. He states that he has suffered greatly from dyspeptic symptoms, and nauseous taste in the mouth; that his sleep is disturbed, and that he requires a higher posture in bed than heretofore; that his urine is plentiful and tolerably clear; and, moreover, that these symptoms have been gradually pressing on him for several months; but what with anxiety about his family, his work, and his difficulties in business, &c., he had not attended sufficiently to his ailments to induce him to seek any medical advice, or allow himself to be put under any prescribed form of treatment. What is the diagnosis which a reader would form from such an outline? Probably the first impression on the mind would be that it was cardiac disease only; and I believe that a vast number of such cases occur in which the practitioner never sees farther into the man's disease than this; and he judges it is cardiac, merely because the symptoms of organic derangement of that viscus are the most marked and the most prominent. But if he is a scrutinizing man, and an attentive clinical student still, although with hoary hairs scattered over his head, he will, I say, go somewhat further in his investigations after the real seat and origin of the disease than this. What does he then elicit? Some of the following pathological features may be drawn out. The early stages of the disease under which our patient now suffers were ushered in, he acknowledges, with some dull aching across the loins; that the urine was then turbid, and perhaps rather scanty; that he is now disturbed three or four times during the night to pass it. We obtain a little of this urine; we find its specific gravity only 1008; it is clear, limpid, and with little colour, faintly acid, containing no albumen. In reply to further interrogations, he confesses that he is occasionally distressed with tightness across the forehead, or a settled dead pain over one brow and temple, which incapacitates him from any mental exercise; that his bowels are capricious

as well as his appetite; that all fluids distress him by inducing flatulence and acid eructations; that he never perspires as he formerly did; that the shortness of breath is of more recent date, but that it is unconnected with any history of previous rheumatic disease of the heart. When the hand and the ear are both placed over this organ, we find that its impulse is feeble and diffused, whilst its sounds are dull and prolonged; there may be some preternatural whiz with the systole also.

What may we now infer from these hints which we meet with in our researches after truth? We can confidently affirm that the first cause of dropsy, in this instance, was an albuminous disease of the kidneys. Their secreting structure has thereby become altered in character. They have long ceased to eliminate from the system those solid constituents which enter into the composition of healthy urine. Those constituents have remained in their elementary form in the system, and their presence has given rise to vitiated fluids, especially of the blood; the valves and the nervous system, but especially the brain, are distressed thereby; and the muscular walls of the heart have suffered also from its contact with this poisoned stream, thickening of these parts and dilatation of the cavities have ensued, whilst the obstacles thereby presented to the free exit of the blood from the right chambers of this viscus through the lungs have, on the one hand, given rise to dyspnoea, and, on the other hand, to a delay in the ascent of the hepatic venous blood into the right auricle. The lobular hepatic veins will necessarily become congested, and by their distension they will impede the due circulation of portal blood, and consequently prevent the due secretion of bile from it. The mucous coat of the stomach and small intestines is now the seat of subacute inflammation; softening of this membrane, together with a depraved secretion of an acidulous tendency from its surface, ensues.

Now it must be manifest that, if the disease in question was renal at its onset, and that one has unequivocal evidence that that disease has advanced so far as to deprive the kidneys of their healthy secreting powers, we cannot reasonably anticipate that any decided benefit will follow the administration of saline or stimulating diuretics; whilst, on the other hand, if the complaint had proved to be one purely cardiac, in which the kidneys had not yet participated, that the exhibition of such diuretic remedies might have been not only judicious, but, as is often the case, of the utmost service to the patient, by the relief which they afford in unloading the system and relieving the heart of its burdensome oppression. Again, it may be observed that nothing can evidence the importance of a just diagnosis in the case now alluded to more than the assistance it affords to the use or the abuse of that valuable remedy in dropsy, elaterium. The exhibition of this drug in dropsy supervening upon simple cardiac disease is not only contra-indicated, but is likely to be followed by the most serious and fatal results. It lowers the influence of an organ already enfeebled in its powers, distressed in its action, and altered in its rhythm, so that dropsical effusion increases under its debilitating tendency, and the disease, for which it is administered as a curative measure, is promoted rather than retarded; whilst this hydragogue in renal dropsy, by its powerful operation upon the whole mucous surface of the alimentary canal, carries off a large quantity of those effete matters which the diseased kidneys have been incapacitated from doing, and the poisoned circulation has been relieved, and the oppressed heart has regained tone and vigour under the use of this remedy. Indeed, I know of no remedial agent which has been attended with so salutary and so beneficial a result as the one in question when judiciously administered, in renal dropsy; whilst I have known the most serious results to ensue from its misapplication in chronic affections of the heart.

The singular change of colour in the whole body, but especially in the face, which attends the early progress of renal disease, or rather granular degeneration of the kidney, is so marked, and is so decisive, that a physiognomist can frequently make an accurate diagnosis of the morbid condition of these organs and their secretion before he interrogates the patient about his symptoms. The pasty look, the uneasy cast of expression, the puffy under eyelid, the bluff cheek, the thick under lip, the dirty skin, and the shining cornea, are features too significant to be mistaken by a practical observer for any other morbid change of internal

organs. There may not be doughy legs or puffy ankles; the urine may be plentiful, but it is frothy, and looks like muddy small beer; the patient is obliged to make water three or four times during the night, in consequence of the chemical alteration of this secretion, which now acts as an irritant upon the mucous surface of the bladder; his appetite, too, is capricious; he is distressed with flatulence; the alimentary canal is the seat of disease also, inasmuch as its mucous membrane always undergoes a process of softening, which coexists with the progress of the renal disease; he suffers from occasional giddiness and tightness across the forehead; his memory becomes impaired from time to time, and he tells you that he has a nauseous filthy taste on the palate when he rises in the morning; his bowels are very easily moved, and he is rather more of a relaxed habit than he was wont to be. Now, under such circumstances, the specific gravity of the urine is rarely higher than 1010, but it is found to be loaded with albumen on the addition of nitric acid, or by the application of heat; there is a very scanty amount of urea or of renal salts in it. The blood of the patient is thin, having much serum, and but little fibrine and few red globules.

ART. 27.—*Treatment of Anasarca and certain Dropsical Effusions, by Discharge of the Fluid by Cutaneous Incision.* By M. LOMBARD.

(*Gazette des Hôpitaux, and Dublin Medical Press.*)

[The following is the substance of a clinical lecture:]

I wish to draw your attention to the case of Hubert Simon, æt. 58. This man has come under our care for the third time. The diagnosis on his admission was "considerable hypertrophy of the heart, with contraction of the aortic opening." It is for the anasarca dependent on this disease of the heart that he has each time applied for relief, and by bleeding and the exhibition of diuretics it has always been afforded. This time, however, these remedies have been less successful. Diuretics gave no relief, though pushed to large doses, and hydragogue cathartics failed equally, although they produced abundant watery stools. The anasarca and dyspnoea increased daily, the latter advancing to orthopnoea. The limbs acquired an enormous magnitude; the infiltration extended even to the eyelids, and while in the former attacks we had only to deal with anasarca, the abdominal cavity now became filled with fluid. Such has been his state for the last three months, and you were convinced that without the means last employed he could not have survived many days.

I have long since drawn your attention to the evacuation of serous collections by openings made in the skin; but I wished that the number of cases observed should impress on you that it is a remedy at present too much neglected by practitioners, proscribed by some, and often improperly employed; but which may be of the greatest service either in curing or palliating one of the severest and most common diseases, usually, it is true, only consecutive, but still frequently causing death, even when the original disease, of which it is a symptom, would have granted the patient a more lengthened term of life.

This is the fourth time that you have seen the ascites disappear along with the anasarca after incisions properly made in the skin of the lower extremities. I do not know whether this fact has been before observed. The observations we have made show that *sometimes* the ascites remains, and *sometimes* disappears. We may lay it down as a rule, that the ascites disappears with the anasarca when it is consecutive to it, and does not depend on abdominal disease, except in the case of aneurism of the abdominal aorta, which comes under the law just laid down. I think that further observations will authorize us in ranging under the law which governs dropsy depending on diseases of the circulating system, that which comes on in cases of albuminous urine, in anæmia, and the different cachectic conditions which are the result either of an alteration of the blood or of general causes; but the number I have already collected does not appear sufficient to establish it as yet.

I insist upon the circumstance of the disappearance of the abdominal effusion, because, as I have already said, that the fact, if it has been observed, has been

considered merely as an unusual case, without perceiving that it is a general fact; and also because, in several cases, where I proposed the removal of the serum by incisions, the proposal was rejected as dangerous, and not capable of affecting the ascites. You have been able to assure yourselves that these incisions are by no means dangerous, and that they have the power of removing the ascites along with the anasarca.

"Why," you will say, "if it is true that certain forms of dropsy disappear after puncturing the legs, is paracentesis always performed?" The answer is easy; because it is not generally known that this may occur, and if such cases have been observed, they have been considered as exceptions. Perhaps, also, those who have tried this method have employed it where the original disease was in the abdomen, and consequently without success. They have not examined if the anasarca has preceded the ascites, which is indispensable for the success of the operation. Further, I have observed a curious case connected, I think, with those before us. It was a case of hydrothorax with anasarca, which disappeared after the evacuation of the serum by incisions in the legs, although it had previously resisted active treatment. In this case the pleuræ became filled during the progress of anasarca dependent on disease of the heart.

From the earliest periods the idea of treating dropsies by openings in the skin has been entertained. Nature, whose proceedings were followed by the ancients in their operations, taught them it, for anasarca sometimes disappears from natural rupture, or gangrene of the over-distended skin. It is very probable that Rondeletius who, it is said, was the first to entertain the bold and happy idea of opening the abdominal cavity to discharge the serum it contained, was led to it as well by the success of scarifications in dropsy of the cellular tissue, as by the thinning and spontaneous rupture of the umbilical cicatrix which he might have observed.

Why, then, has such an old-established and often so successful an operation been so much abandoned? The reasons are laid down in all authors—the fear of gangrene, of erysipelas, of sloughs, of troublesome ulcerations; and they resort to the operation only when all other means have failed, and the skin is on the point of tearing, and then they merely make punctures, or superficial scratches, which permit the serum to escape in a slow and incomplete manner. This seems to involve several errors. First, is the delay; when the skin has been long distended it loses its vitality, and in many cases sloughs form, when neither punctures, scarifications, blisters, cauteries, nor other means had been used which might have produced them. Secondly, the openings made are insufficient for the prompt escape of the serum, and inflame with great rapidity, causing great pain to the patient, and frequently giving rise to dangerous erysipelas.

All these disadvantages may be avoided by operating early, and instead of punctures making four or five deep incisions down to the fascia, the third of an inch in length, in each leg, in the most depending position; the patient also must be in bed as little as possible, for there he is always wet and cold, and the position is unfavourable for the escape of the serum. He should be seated in an arm-chair near the fire, the legs naked and resting on cloths; and when we have wished to ascertain the exact amount of fluid that has escaped in the twenty-four hours, we have placed them in a foot-bucket. When the serum has all drained away, the legs should be supported by a roller.

I have followed this plan for six years with perfect success in cases of anasarca; and, as I have already observed, the attending ascites has sometimes also been cured.

SECT. VII.—DISEASES OF SKIN AND CELLULAR TISSUE.

ART. 28.—On the Eruptive Diseases of the Scalp. BY DR. NELIGAN.

(Dublin Quarterly Journal, Aug. 1848.)

The author proposes the following classification of the diseases affecting the scalp:

- | | |
|--|---|
| 1. Inflammatory.
a. Herpes capitis.
b. Eczema capitis.
c. Impetigo capitis.
d. Pityriasis capitis. | 2. Non-inflammatory.
Porrigio capitis. |
|--|---|

These he proceeds to describe individually.

1. *Herpes capitis*. This disease usually attacks children between the ages of three and twelve. It is rarely seen in its first stage, or that of vesicle, as it then produces little or no annoyance. When it is seen at its commencement it presents the appearance of a small ring of vesicles, without any inflammation. These soon dry up and desquamate, at the same time spreading at the circumference. In the next stage it is found that the centre, where the eruption first appeared, is thickened and covered with fine scales. As the disease advances, the hair assumes an almost pathognomonic appearance, each hair appearing slightly bent upon itself, twisted, and of a whitish colour, and readily falls out, so that bald patches begin to appear. From this appearance Mr. Erasmus Wilson calls the affection trichonosis furfuracea.

Herpes capitis is the true ringworm of the scalp. The contagious nature of this eruption has been doubted by some, but the author regards this quality to be as distinctly proved as in smallpox. Herpes capitis does not cause (permanent) baldness, the hair eventually growing again; thus constituting an essential difference between this disease and alopecia.

2. *Eczema capitis* is also a vesicular eruption, but it soon loses this character, and presents in its various stages so much diversity of appearance, that its diagnosis is not unattended with difficulty. The eruption is preceded by heat, tingling and itching, rapidly followed by minute vesicles, crowded in irregular patches. The vesicles usually first appear behind the ear, from whence the disease spreads rapidly, so as, in some cases, to cover the whole scalp in a week or ten days.

With the progress of the affection its appearance varies much; in some places it is only to be recognised by the exudation, which keeps the hair constantly moist; in other spots the scalp is raw or excoriated, and secretes a thin whitish pus, which dries into grayish-brown scabs, presenting cracks and fissures, through which the inflamed scalp is visible. In a third variety, the serous exudation dries rapidly into thin membranaceous scabs; and a fourth is characterised by a repeated eruption of minute patches of vesicles, which follow the course of the eruption on other parts of the body, disappearing in six or seven days, to be rapidly succeeded by a fresh outbreak.

The hair remains unaltered, excepting ulceration of the scalp has taken place; and the disease is not contagious, but has apparently a constitutional origin.

3. *Impetigo capitis* is a pustular disease. Its occurrence in children is preceded for a few days by feverish symptoms, frequently attended with vomiting. The eruption appears either in distinct pustules of a pyodermic character, scattered over the head, or in groups thickly set on an inflamed base. In either case the hair is unaltered; it is usually matted together by purulent secretions and scabs, but it does not fall off or become changed in appearance, even in the most chronic cases.

4. *Pityriasis capitis* is a squamous disease, consisting of numerous papyraceous dry scales, scattered over the head. It gives rise to much itching, which causes the individual to scratch the head, by which scales are detached in large quantity. In children, the irritation is sometimes so great, that eczematous vesicles complicate the original disease. The hair remains unaltered.

As respects the treatment of this group of the eruptive diseases of the scalp, the author observes that two principles must be laid down: first, that they are inflammatory; and, secondly, that they are constitutional. It is to the neglect of these principles that the difficulties of treating scalp diseases is to be ascribed. One general rule which the author adopts is never to shave off the hair; but he orders it to be cut close with scissors. He also forbids the use of combs.

The local remedies which he is in the habit of employing are the carbonates of soda and potash, either made into an ointment with lard, or in the form of lotion. He uses these of various strengths, according to the form of the eruption, and the greater or less degree of attendant inflammation. The carbonate of potash, being of a somewhat more irritating character, is applicable only to those cases where the inflammation is slight, as it generally is in pityriasis, and in many forms of herpes, and in the more chronic forms of eczema; but the carbonate of soda is best suited to impetigo in all its stages. The quantity of either varies from a scruple to half a drachm to the ounce of lard, to which, in private practice, a few drops of bergamot are ordered. The ointment is applied three times a day, being lightly smeared over the eruption: it is washed off with the alkaline lotion every morning. In cases where the head is covered with thick hard scales, a light linseed poultice is first applied for twelve hours; the scalp is then covered with a piece of old linen spread with the ointment, and covered with an oil-silk cap; this is allowed to remain for twelve hours more, when the scales are readily removed by washing with the alkaline lotion.

The alkaline lotions are prepared by dissolving \mathfrak{zss} or \mathfrak{zj} of carbonate of soda or potash in a pint of rose-water. This is used at least once a day, unless it is used as the only application, when it is to be employed five or six times daily.

In the chronic forms of scalp eruptions the application of a mild stimulant becomes necessary. The preparation preferred by the author is dilute citrine ointment—from half a drachm to a drachm of the officinal ointment to an ounce of lard. This is applied at bedtime, and washed off in the morning with the alkaline lotion.

In the treatment of the inflammatory division of eruptive diseases of the scalp, the author gives the yellow iodide of mercury as an alternative, in combination with hydrargyrum c. creta, and aromatic powder. To a child six years old he gives half a grain of the iodide, two grains of hydrarg. c. creta, and two grains of aromatic powder every second morning; to an older child the same quantity every morning. *In all cases the child is maintained on a strictly milk diet during the entire treatment.*

5. *Porrigio capitis*. [The plan of treatment which the author has found effectual in this obstinate malady is twofold—constitutional and local.] The constitutional remedy is the iodide of arsenic, a powerful alternative, but one which may be given with the greatest safety to a young child, its effects being duly watched. The dose for an adult is \mathfrak{r}_8 — $\frac{1}{2}$ gr., gradually increased; for a child six years old, \mathfrak{r}_8 gr. It is best given in form of pill, or, in the case of a child, in powder with aromatic powder.

The local treatment consists in cutting the hair close, and applying a large poultice for twelve hours. As soon as the poultice is removed, the head is well washed with the alkaline lotion, and brushed with a soft brush, the scalp is then covered with alkaline ointment on lint, which is to be renewed twice a day. After a few days, the alkaline ointment is replaced by one of the iodide of lead (\mathfrak{zss} — \mathfrak{zj}), the head being still washed every morning with the alkaline lotion.

ART. 29.—On the Treatment of Lupus by Cod-liver Oil. By M. EMERY.

(*Revue Méd.-Chirurg.*, Août 1848.)

[The author, who is placed in a sphere of extensive observation of skin diseases, had, in common with other physicians, failed to arrest the progress of this frightful malady, when he was induced, in a remarkably severe instance, to give cod-liver oil in large doses (from a pint to a pint and a half in the day). In two months a complete cure was accomplished. Encouraged by this, he applied the same treatment to a great number of cases, commencing in all with 100

grammes (25 drachms), and quickly increasing it to 15 or 20 ounces in the day. If vomiting ensued, it was suspended for a few days, and then recommenced as before. He has treated in this matter as many as *sixty-four* cases of lupus. The majority of these received material benefit, and twenty-four were completely cured. The following cases are among several reported:]

CASE I. A female, æt. 20, of good constitution, was the subject of lupus, affecting the right ala nasi, and the upper lip and cheek of the same side. The tubercles were covered with a green scab. No advantage had been derived from any treatment until the cod-liver oil was employed, which was commenced in the dose of eight tablespoonfuls per diem. An attack of erysipelas caused the suspension of the medicine for some time, but it was resumed, and increased to fifteen tablespoonfuls per diem. In three months all the crusts had fallen, and the ulcers had cicatrized.

CASE II. On the 6th May, 1847, a woman, æt. 44, was admitted who had been the subject of lupus for twenty years. When admitted the entire nose, the upper lip, the lower eyelid, and the two cheeks were covered with thick scabs, which surrounded extensive ulcerations. She was immediately put upon a course of the oil, under which, in six months, a complete cure was effected.

[Similar testimony respecting the therapeutic powers of cod-liver oil in large doses, in lupus, is borne out by M. Devergie (*Journal de Médecine et de Chirurgie*, Juillet, 1848); but, on the other hand, the communication of M. Emery is subjected to very severe criticism in a recent number of the '*Annales de Thérapeutiques*, (Août 1848). The writer of the critique alluded to partly animadverts upon the improbability of persuading patients to swallow a pint or two a day of so nauseous a medicine, and also upon the ruinous consequences, in a financial point of view, which must accrue to a public institution from such heroic administration of an article which costs four shillings a pint. Regarding lupus as a form of scrofula, we do not dispute the advantages to be derived from the use of the oil, but at the same time we believe that all the benefit to be derived may be anticipated from a far more moderate quantity than M. Emery's patients were made to swallow.]

ART. 30.—*Diagnostic Characters of Secondary Syphilitic Eruptions.* By M. RICORD. —In the first place, they present, on the whole, the same characters as common eruptions; they are either composed of vesicles, papules, pustules, &c. In this respect the diagnosis is entirely guided by ordinary rules; but there are means of ascertaining the specific nature of the eruption. To do this, we must study the precedents of the case, in order to fix upon the accident which has been the fountain-head of the mischief; namely, the indurated chancre. We inquire whether the patient has or has not had suppurating buboes: whether he has suffered from obstructed glands, without suppuration; we try to find out whether there are still traces of adenitis, either on the posterior part of the neck, or in other regions. In this manner we often reascend from one accident to the other, until we reach the very outset of the disease, unless a mercurial treatment has intervened; for in such a case the chain and succession of symptoms is interrupted. Syphilitic eruptions, which you will bear in mind can never spring up spontaneously, viz. without the existence of a primary accident, are not preceded by any febrile phenomena; the eruption may be said to be apyretic, indolent, involving in a very short time the whole body, and appearing, in some degree, by successive instalments. They do not, as has been asserted, affect the face in preference to any other part, but they spread indistinctly all over the frame. The smell which they have been supposed to emit is far from being a specific one; in fact, there is none at all, except when the suppuration is very abundant, or when the eruption includes parts where it causes a muco-purulent secretion, as, for instance, mucous papules or patches do; but I repeat it, there is nothing specific in the smell, nor is the copper colour mentioned by Swediaur, or the ham-like hue spoken of by Fallopius (which latter has been with reason looked upon as an important sign), an absolute and constant character. In the secondary exanthematous eruptions, which generally come on in the earlier period, there is as much redness as with the common exanthemata, and no alteration in the cutaneous pigment is yet observable: so that no reliance can be put on the colour, and it often happens that men, accustomed to treat skin diseases, mistake simple eruptions for syphilitic

exanthemata. At first the redness is a mere congestion, which readily disappears under the finger; a little later it becomes an actual stain, on which pressure has no effect. These purplish-brown stains are also met with in psoriasis, in lepra, and in other diseases; but they generally are surrounded by a much darker areola in secondary syphilis than in any other affection. The seat of the cutaneous manifestations is not of much value as to the diagnosis; for they may spring up anywhere, as well on the genital organs as in other places; and you recollect, no doubt, that I mentioned before, that they sometimes simulate a primary sore. Nothing, in fact, resembles more an indurated chancre than an ulcerated mucous tubercle, seated on the thickness of the skin or mucous membrane, particularly when it happens to be solitary, and to be placed on the generative organs. As to shape, you will find that secondary eruptions generally present rounded and well-defined patches, the colour of which may in the centre be more or less deep. When the disease is of some standing, they will form distinct groups, which assume the annular or the crescentic form; also, that of the figure 8. When they take the shape of segments of circle, they are more defined than in common eruptions. Secondary cutaneous manifestations have very little tendency to suppuration, unless the subject be constitutionally predisposed to pyogeny, and when matter *does* form, it is generally small in quantity, and far from laudable in its nature. The eruptions which do not suppurate will in time disappear altogether, and thus terminate by resolution or desquamation. The scales in these cases are less brilliant, and thinner: they dry more quickly, fall off more frequently in a furfuraceous form, than in unspecific affections, and the scales sometimes come off in large shell-like pieces. Syphilitic patches sometimes get covered with crusts of various dimensions, and of a dark-greenish or blackish hue; their surface is cracked and broken, and generally thicker than in common eruptions. These crusts are sometimes so adhering, that they remain fixed on the spot, notwithstanding cicatrization: they are, in some degree, grooved in the scar, and in some cases the crust is loosened by gradually turning up at the margins as the cicatrix is progressing from the circumference to the centre, and it finally falls off when cicatrization is complete. In cachectic subjects there is much tendency to frequent hemorrhage.

The crusts sometimes accumulate, layer after layer, and form distinct prominences, which constitute the affection known under the name of rupia. When, by the falling of the crust, the ulceration becomes apparent, it assumes generally a rounded form; its fundus is grayish and pulraceous: it is surrounded by a darkish areola, and there is a certain induration in the margins. The tendency to phagedæna is rare, but still it does sometimes happen that these ulcerations make great havoc by extending very rapidly. Bear in mind that secondary syphilitic ulcers cannot spring up spontaneously, as it were: they are always preceded by some eruption, as ecthyma, rupia, papules, or tubercles; such ulcers rarely follow vesicles or psudaceous pustules. One of the most important characters of secondary eruptions (which, indeed, I ought to have mentioned sooner) is a total absence of pruritus, whereas itching is a very frequent symptom of the other kinds of eruptions. When, however, the syphilitic rash includes naturally prurigenous regions, as the anus, the genito-crural fold, the axilla, &c., there may be a good deal of itching, but the latter is then produced more by the irritative properties of the secretion than by the eruption itself.

The cicatrices left after secondary eruptions are very peculiar in one respect, viz., they may exist without any previous abrasion of surface; this is more especially the case in the papular and tuberculous forms. It seems that, in such cases, a plastic effusion takes place, and causes a certain hardness of the part; when this fibrinous secretion becomes absorbed, a regular cicatrix ensues, and may be looked upon as the result of a kind of atrophy, or falling in of the textures, brought about by an obliteration of the vessels. Secondary syphilitic cicatrices are generally round, purplish, and arborescent; afterwards they are whiter and depressed. They are simulated by the cicatrices after friction with tartar emetic, &c., and are, therefore, not unmistakable. To sum up; we cannot rely on any absolute character or diagnostic of venereal eruptions; we must take this history into account. The most constant character is the absence of pruritus, next to this the copper colour.

Lancet, April 22d.

ART. 31.—*Treatment of Acne Rosacea*.—M. Campardon adopts the following system: Having restored any deviation from health in the digestive organs, the patient takes tartar emetic in the dose of $\frac{1}{16}$ grain with three grains of the powder of dulcamara every morning, fasting. Nausea, which is sometimes excited at first, soon subsides, and tolerance is effected. The medicine appears to act as a depresser of the power of capillary circulation, and, under its influence, the redness of the skin soon diminishes. The face is also washed with lime-water, or a weak lotion of the bichloride of mercury. If acne rosacea be complicated with acne indurata, the author advises an ointment of the chloride of silver to be rubbed on each tubercle. If the disease proves rebellious, he substitutes friction with an ointment of cantharides, so as to induce inflammation. When this is established, he applies leeches and cold lotion, and on its subsidence the tubercles will be found to have subsided.

Encyclog. Médicale, Mai 1848.

ART. 32.—*Arsenic in Furunculus and Acne*.—Dr. Schweich has prescribed arsenic with great success for some time past in furunculus, and has found the cure very durable. He begins with four drops of Fowler's solution twice a day, until a drachm has been taken; he then increases to five drops and six drops in the same manner. Acne yields to arsenic with the same readiness. He condemns the use of purgatives in both these affections.

Casper's Wochenschrift and Brit. and For. Rev., Oct. 1848.

PART II.

SURGERY.

SECT. I.—SYMPTOMATOLOGY AND DIAGNOSIS OF SURGICAL DISEASES.

ART. 33.—*Diagnosis of Incomplete Fractures.* By M. DEBROU.—M. Debrou, relating a case of fissured fracture of the lower end of the femur, which was undetected during life, observes that while the obscurity of these cases, owing to the absence of crepitus, and all the usual symptoms, renders detection difficult, it is very important for the patient that this should be effected, else he is not placed under restrictions as to the motion of his limb, which are essential to his well-doing, inasmuch as incaution in this respect has led to the development of inflammation, which has terminated in death, or the loss of the limb. *Severe pain at the seat of the fracture, distinguishable from the more diffused, less fixed, and less intense pain of the accompanying contusion, is one of the best signs.* If the indication furnished by this is overlooked or inappreciable, and the limb is not secured, another sign manifests itself, viz: *erysipelas arising at the very seat of fracture*, thus developing itself after the inflammation depending on the contusion had subsided. This erysipelas is accompanied, too, by an œdematous, or pasty feeling, of the part. The delay, (perhaps several days) in the appearance of this form of erysipelas arises from the inflammation first occurring among the soft parts around the bone, and spreading from within outwards, inversely to its usual course, it being, in fact, but a symptom of the suppuration which is going on between the bone and the muscles.

Archives Générales, tom. xvi.

ART. 34.—*Diagnosis of Injuries to Tendons and Ligaments.*—In those slight injuries which are commonly called sprains, there has appeared to me to be a difference between injury done to a tendon and that to a ligament. The injury occasioned by a trip in running down stairs, either affects the external ligaments of the ankle-joint, or of the tendons of the peronei muscles, the brevis usually. In the case of the ligaments being injured, there is usually no effusion of blood, and a considerable time is required for getting rid of the pain on moving, particularly if the parts are put on the stretch by using the limb too early: but when a tendon is sprained, there is generally a little blood thrown out into its sheath, and the pain may perhaps be greater than that of the ligaments at first, but by rest it is sooner removed.

Those bruises which occur to the parts of tendons or ligaments just at their insertion into bones produce long and considerable pain, and are of such a character as may lead to the suspicion that a very serious injury has been produced to the bone, or to a neighbouring joint. The insertion of the deltoid muscle into the acromion, and of the ligament of the patella into this bone, when patients in falling strike these parts, offer the most common cases of this description. These injuries cause the greatest pain and difficulty when the muscles are put in action, and the parts are often very long before they recover.

Observations on some of the Parts of Surgical Practice, p. 212, by J. P. Vincent, 1847.

ART. 35.—*Distinction between Syphilitic and Scrofulous Affections of Bone.*
By M. RICORD.

(*Lancet*, June 10, 1848, p. 629.)

Syphilitic Affections of Bone.

1. Very rare with young people.
2. Syphilitic precedents.
3. Compact texture of bones attacked.
4. Superficial part of the bone.
5. Little tendency to hyperostosis.
6. The pains which precede the development of the affection increase, and become very intense, until they decrease again, and entirely disappear in the latter periods of the disease.
7. A tendency to circumscription.
8. Exostosis.
9. Tendency to ossification and eburnation, but very little suppuration.
10. A chain of syphilitic symptoms, either concomitant or antecedent.
11. Rapid cure under appropriate treatment.

Scrofulous Affections of Bone.

1. Very frequent in youth.
2. Scrofulous precedents.
3. Spongy or cancellated texture of bones attacked.
4. Deep parts of the bone.
5. Much tendency to hyperostosis.
6. The tumefaction precedes the pain, but the latter soon increases, and becomes more and more intense as the disease advances.
7. A tendency to diffusion.
8. Hyperostosis.
9. Tendency to softening, to suppuration, caries, and necrosis, and not to ossification.
10. A chain of scrofulous symptoms widely differing from those of syphilis, either concomitant, or antecedent.
11. Very difficult cure, often incomplete, and sometimes impossible.

Syphilis may, however, be superadded to scrofula; we must then, in combating any lesion, endeavour to find out to which of the two diatheses it is mostly owing, and select our therapeutic means accordingly.

ART. 36.—*Diagnosis of Congenital Dislocation of the Shoulder.*
By W. R. SMITH, Esq.

Fractures and Dislocations, p. 257, by W. R. Smith, Esq., 1847.

The patients usually ascribe the deformity to injuries received during childhood, for there is a natural unwillingness to admit any original defect of organization; but, in most instances, the paralysis, upon which the deformity depends, will be found to have existed at birth.

In the instance to which I allude, the shoulder is flattened, the deltoid and scapular muscles are atrophied, and the capsular ligament is elongated. The head of the humerus can be easily pushed, either inwards or outwards, so as to permit of the glenoid cavity being felt; the whole joint is, as it were, loose; the shoulder droops, and the elongated limb may be said to dangle, rather than to hang, by the side. When the head of the humerus is pushed upwards, the appearance of luxation is removed, and the rounded form of the shoulder is, to a certain extent, restored, although, in consequence of the atrophied state of the muscles, it does not recover its natural fulness. In the true congenital luxation, however, there is superadded to the atrophy of the muscles a malformation of the bones composing the shoulder-joint.

In early life, before the bones have reached their full development, before the muscles which act upon the articulation are called to their full exertion, the outward signs of the deformity may escape observation; but when the bones of the shoulder have reached maturity, when the osseous prominences which overhang the joint stand out in relief, then it is that the characteristic features of the original luxation become strikingly apparent.

I have myself as yet ascertained, by post-mortem examination, the existence of only two varieties of this malformation. In one of these, the head of the humerus is placed beneath the coracoid process; while, in the other and more rare variety,

it is lodged in an abnormal socket, formed upon the dorsum of the scapula, below the outer and posterior part of the acromion.

They may be termed the sub-coracoid and sub-acromial congenital luxations, and may exist either upon one side only or upon both. Of the latter species I have seen only one example, but several instances of the former have come under my observation within the last few years.

SECT. II.—NATURE AND CAUSES OF SURGICAL DISEASES.

ART. 37.—*Dislocation of the Pelvis.*—[In the Sixth Volume of the 'Abtract,' p. 77, an article is introduced on "Separation of the Sacro-Iliac Symphysis," by M. Kluyakens; the following notice "On Dislocation of the Pelvis" has subsequently appeared in several of the journals:]

M. Murville, in a memoir presented to the French Academy of Medicine, on luxations of the pelvic bones, relates the two following very remarkable examples of this accident. The first was the case of an officer, who fell from a second-floor window, and lighted on the tubera ischii. The sacrum was displaced downwards by the weight of the body. On examination, the crests of the ilia were found to be almost touching the false ribs; the os coccygis, much shattered, projected considerably below. The patient complained of great pain in the sacro-iliac symphysis, with paralysis of the bladder and rectum, small pulse, and other signs of collapse. He was restored somewhat by stimulants, and when reaction was fully established, he was treated antiphlogistically, the displaced bones being maintained as motionless as possible. No attempt at reduction was considered advisable. This treatment was marvellously successful; not only did the patient survive, but the paralysis diminished, and in ten days the patient was able to walk with difficulty.

The second case is unique. An officer, during a review, was run away with, the horse, at the same time, plunging violently; in one of the plunges he was thrown considerably from his saddle, upon which he descended again with such force as to lacerate the left side of the pelvic arch, without injuring the skin. A second plunge of the animal added to the mischief, completely rupturing the ligaments of the symphysis pubis. When examined, a large inguinal hernia was discovered on the left side, and in the perineum a tumour projected as large as the fist, which could be pushed upwards into the pelvis. The symphysis pubis was separated to an extent which allowed the hand to be insinuated between the ossa pubis. The hernia was reduced, and the bones kept in apposition by bandages, and in three months the patient was able to walk. M. Murville, upon this case, founded some remarks upon the feasibility of the operation of division of the symphysis in labour. In a discussion which ensued, M. Malgaigne doubted that it was a case of simple dislocation, thinking it probable that there was also fracture.

Prov. Med. and Surg. Journal, Nov. 17, 1847.

ART. 38. *Fracture of the Ascending Branch of the Ischium and Descending Branch of the Pubis caused by Muscular Contraction.* By M. CAPPELLETTI.—A man, æt. 54, jumped from a carriage, the horses having run away, and alighted with his feet to the ground, but with one limb in the greatest possible degree of abduction. A surgeon, who saw him immediately, found an enormous swelling at the superior part of the thigh, accompanied with very acute pain, requiring local and general antiphlogistic treatment. After some time he continued his journey, although not recovered. When M. Cappelletti saw him at Trieste, six months had elapsed, and he recognised the following symptoms:—slight swelling at the internal superior part of the right thigh; on exploring this region the patient experienced acute pain, which was renewed by pressure on the tuberosity of the ischium; a moveable osseous body, two inches and a half long, and the size of the finger, could be felt. The patient walked limping, and with pain, and the pain was increased on abduction.

It soon occurred to the author that the loose bone consisted of a part of the ramus of the ischium and pubis detached from the pelvis by muscular contraction. On examining it anteriorly, he found this part defective, and that the loose portion of the bone had all the anatomical characters of the defective part. He felt distinctly the circular projection indicating the point where the ascending branch of the ischium unites with the descending branch of the pubis.

Giornale per servire ai Progressi della Patologie e della Terapeutica, 1847.

ART. 39.—*Cases of Strangulated Hernia, in which the stricture was occasioned by a Band of Lymph effused from the Serous Coat of the Intestine, surrounding and constricting it as by a ligature.* By Dr. PIRRIE, Regius Professor of Surgery in Marischal College, Aberdeen.

(Condensed from *The Monthly Journal of Medical Science*, 1848 ; p. 770.)

The first case was that of a female, about 60 years of age, of a full habit of body, and the subject of a strangulated umbilical rupture. Her medical attendant, a surgeon of long standing in Aberdeen, found it necessary to have recourse to an operation, and of that I was a witness. The hernia returned very suddenly as soon as the margin of the umbilicus was slightly divided; but the symptoms of strangulation continued, and the patient died in ten hours after the operation. I was requested to conduct the post-mortem examination; and, on opening the abdomen, found behind the umbilicus a swelling about the size of a small orange, formed of intestine, with a neck, surrounded by a band of lymph, which embraced and constricted the part as by a cord. The lymph had been effused from the serous coat of the intestine, in consequence of the inflammation excited by the pressure of the margin of the umbilicus. In this case the hernia was returned, but without the stricture having been divided.

The second case was that of a female, a patient of my own, about the middle period of life, on whom I had occasion, with the assistance of Mr. Paterson, surgeon in Aberdeen, to perform the operation for strangulated femoral hernia. On carrying up the point of my finger between the hernia and hernial sac to feel for the stricture, I was struck with the circumstance, that the tightness of what I supposed to be the stricture bore no ratio to the extreme urgency of the symptoms of strangulation; and that, after dividing some of Poupart's ligament, by cutting from within the hernial sac, the intestine, on being gently pressed, still remained as tense as formerly, and its contents did not seem to be moved by the pressure. I therefore examined the neck of the hernia with my finger, and perceived a band of lymph, keeping the part tightly constricted, and, in short, constituting the stricture. I gently drew down the intestine, and cut the band in several different parts, when the contents of the intestine could be easily made to move upwards. On being satisfied that all constriction was removed by dividing the band of lymph in various parts, the intestine was returned into the abdomen, and the patient recovered without an unfavourable symptom. If the hernia had been returned without this band of lymph having been discovered and divided, the object of the operation would have been unaccomplished.

The third case was that of a female, about 60 years of age, of a remarkably full habit, and who, about two days before I saw her, had been seized with symptoms of strangulation. When I first saw her the abdomen was tympanitic to a great degree; the vomiting was most distressing; the bowels had not been moved for five days; and she had every symptom of sinking very rapidly. She stated that she had often, on previous occasions, had attacks of what she believed to be colic, and imagined at first that the illness from which she was suffering was only a return of that disorder, and, consequently, anticipated a speedy recovery. I was also informed that, for a considerable time, she had had a disagreeable feeling of tenseness in her left groin, though without swelling, so far as she could perceive; and that, some hours before I was called, while drawing up her limbs in a fit of retching, she felt, to use her own expression, as if something had given way in her groin, and from that moment was relieved from all feeling of tenseness. The symptoms of strangulation, however, continued. I made a most minute examination of all the usual seats of hernia, but could detect no symptom of such a lesion. I requested my colleague, Professor Macrobini, to attend the patient along with

me, which he did; and he was also present at the post-mortem examination. On opening the abdomen, there was at its under part a small tumour of intestine seen, before any parts had been disturbed beyond merely turning down the abdominal parietes. It was of a livid colour, about the size of a walnut, and with a narrow neck, tightly embraced by a band of lymph, by which it was so constricted as to make it difficult to pass a probe from that part of the intestine which led to the swelling, into that which constituted the tumour. The intestine was also twisted over itself in the form of a loop. On examining the femoral canal of the left side, a hernial sac was found in it; and the tumour of the intestine had, no doubt, formed a hernia, but returned of itself. The stricture, however, formed by a band of lymph, still remained. Sir Astley Cooper records a case in which Mr. Weston returned a hernia by the taxis without an operation; but the symptoms of strangulation continued, and it was found that the stricture was caused by a band of lymph, which embraced the intestine. In the instance of my patient, the hernia returned without any assistance.

The fourth case was that of a female, whom I had never seen during life; but at the post-mortem examination of whose body I was present, in consequence of the request of a medical man who had seen her a short time before death, and who had also often attended her on previous occasions, when in a state of great suffering from disease of the womb. The symptoms, I was informed, were those usually induced by a strangulated hernia; but the medical man could not detect any swelling in any of the usual seats of hernia. On examining the left groin, before opening the abdomen, I thought I felt a very small swelling, which I suspected to be a hernia; and I therefore made a careful dissection of the parts, in presence of the surgeon, who requested me to do so, and one of my pupils. On cutting through Poupart's ligament from before backwards, the contents of a small hernial sac returned into the abdomen without being touched, and were found to consist of intestine strangulated by a band of lymph, embracing the neck of a small hernia. The hernia was not much larger than a walnut. If it had been discovered during life, and been made the subject of operation, there would have been great risk of its returning into the abdomen without the real stricture being discovered or divided.—(Vide Report on Surgery in the present Volume.)

ART. 40.—*The Pathological Sequences of Myringitis.*

By JAMES MERCER, M.D., F.R.C.S.E.

(Condensed from *The Monthly Journal*, March 1848; p. 647.)

The pathological sequences which result from myringitis are very numerous, and by far the greater proportion of them are commonly fatal. I have endeavoured to arrange these as simply and connectedly as the history, progress, and relative terminations of them enabled me to do; and of these I would enumerate the following list, which I have been able to glean from the records of science, or have seen in my own experience:

I. *Caries of the Parietes of the Tympanum producing Meningitis, without Destruction of the Petrous Portion of the Temporal Bone.*

The pathological connexion between the existence of diseases of the middle ear and those of the membranes and substance of the brain was for a long period unnoticed: it was not until within the last thirty years that special attention was directed to them. The merit of the first improvement in this department of medicine is undoubtedly due to the late Dr. John Abercrombie, so early as 1821. But even at this early period Dr. Abercrombie did not press this important fact so forcibly on the profession as his subsequent experience enabled him to do; for in his case of meningitis of the cerebellum (Case 15th, Ed. 2d, 1829), that proved fatal in 1821, the patient had laboured under all those symptoms which usually attend, and are characteristic of, acute myringitis, and had also a discharge of purulent matter from the left ear very early in the disease. On inspection of the brain, it was found all healthy but the left lobe of the cerebellum. There, on its outer surface, was formed a uniform deposit of thick puriform matter, most

abundant on the left side. The pia mater of the cerebellum was highly vascular; the dura mater was healthy; there was some purulent matter about the pituitary gland, and in the cavity of the middle ear, but *there was no appearance of disease of the bones connected with the ear, or of the dura mater covering them.*

This case we look upon as the most simple form, considering the pathological results, of the more extensive ravages which accompany, and are produced by, acute myringitis. It is well known to all practical aurists that, in every case of acute myringitis, considerable morbid changes always result to the parietes of the cavity of the middle ear, and no discharge of pus can take place from this cavity until the integrity of the membrana tympani becomes destroyed. It is unfortunate that no special account of the actual state of the parietes of the cavity of the middle ear has been recorded in the above-quoted case, farther than that "there was some purulent matter in the ear." Had the parietes of the cavity been more carefully examined, a greater extent of disease might have been detected. It is also well known that, if a person has once suffered from acute myringitis, and that this has been more or less successfully relieved—that so long as any purulent discharge takes place from the external ear—the disease still exists in a chronic form; but if the patient becomes exposed to the influence of those agencies capable of reproducing the disease, it usually returns with all the force of an original attack.

I am inclined, therefore, to view this case as one of myringitis; and it is also further interesting in showing that disease of the membranes, or the substance of the brain, may result from diseases of the cavity of the middle ear, and without any destruction of the petrous portion of the temporal bone.

II. *Caries of the Parietes of the Tympanum, producing Meningitis, or Cerebritis, in consequence of Destruction of the Osseous Septum between its Cavity and that of the Cranium.*

This is of more frequent occurrence than the former variety, and is generally a very deceitful and insidious, but a most dangerous, affection. It commences with all the symptoms of simple inflammation of the membrana tympani, or those of its more complicated form, myringitis; and many so affected consider it for a time as a trifling earache. If a discharge of matter takes place from the ear, it is expected that the pain will be relieved; but, on the contrary, it becomes more and more violent. The general course of such cases is, that the patient becomes drowsy and oppressed; delirium supervenes; shiverings; singultus and subultus tendinum; and ultimately complete coma. It is, also, not uncommonly found to occur in cases where acid lotions have been employed to check suddenly the purulent discharge from the cavity of the tympanum, without any other counter-irritation having been adopted to prevent the occurrence of inflammation of the brain. In these cases the patient, after complaining for a day or two of having had deep-seated and very acute pain, especially during the night, in the ear, and along the face or side of the neck, suddenly becomes restless and forgetful—lies rolling his head from side to side, tossing about his arms, and in a short time sinks into coma.

In both of these forms the petrous portion of the temporal bone will be found to be more or less destroyed.

III. *Caries of the Parietes of the Tympanum, inducing Phlebitis of the Lateral Sinus and Internal Jugular Vein.*

This is another and by no means an unfrequent termination of complicated acute tympanic myringitis. In this class of cases, the osseous posterior septum of the mastoid cells gives way, and immediately on its occurrence the dura mater covering the diseased bone becomes diseased, presenting all the symptoms of meningitis. From the proximity of the sigmoid curve of the lateral sinus along the cranial surface of the mastoid cells, the lining membrane of the vein becomes speedily inflamed, and, extending rapidly along it to the heart, forms a fatal phlebitis of the internal jugular vein.

The following case in the Report of the Dublin Pathological Society, vol. xix,

is one of the most interesting examples of this form of the disease in the records of medicine.

A boy, æt. 16, entered the Hardwicke Hospital, in Dublin, May 27th, 1840, under the care of Mr. R. W. Smith. He had been exposed to the greatest hardships and laborious exertions from his earliest youth. He had been ill for seven days previous to his entrance into the hospital; complained of shiverings, and a cold creeping sensation, succeeded by intense pain in the right ear and right side of the face. He had had nausea and vomiting, with loss of appetite; was constantly drowsy, and prevented from sleeping by a loud noise in his ear.

After remaining under medical treatment for a short time he left the hospital and resumed his work, but was soon obliged to discontinue it, from the debility and occasional syncope with which he was overpowered. When he was again admitted he could not walk steadily; but he had no spasmodic or irregular action of the muscles, but he staggered from vertigo; he was thin and pale and had a vacant stare, with large and equally dilated pupils; his answers to questions were slowly but rationally given; he complained of severe shooting pains through the back part of his head into the right ear, from which flowed a greenish fetid matter; his tongue was white and moist; his pulse 132, sharp and small; and his skin was hot.

He grew rapidly worse after his admission; he slept but little, started frequently from his sleep, moaning from the acute pain in his right ear; whenever he attempted to rise, he supported his head with his hands, and was sensible of a noise in his head like the splashing of water; there was a sense of fluctuation and great tenderness over the mastoid process; a teaspoonful of fetid pus was given exit by incision, and the bone was found denuded of its periosteum; he had great epigastric tenderness and ardent thirst.

Upon the 3d of June he had a jaundiced hue, and an attack of diarrhoea with tenesmus; he had also a distressing cough, and severe pain along the right side of the neck. Upon the 6th, symptoms of arachnitis set in; violent darting pain in the head, alternations of heats and chills; a rapid pulse; delirium; dilated and irregular pupils; vomiting; occasional singultus; he was restless; burning heat of scalp, and cold extremities; he soon became comatose, ceased to answer questions rationally, and died June 11th.

Examination of the head.—The brain was firm, the left hemisphere pale; the right highly vascular in the interior, and the membrane covering it minutely injected with blood, especially along its inferior surface. Three small purulent deposits surrounded by a vascular circle, and apparently encysted, were found at the inferior surface of the right lobe of the cerebellum, where it corresponded to the lateral sinus. The dura mater was separated, by pus and lymph of a green colour, from the anterior surface of the petrous portion of the temporal bone; but there was no perforation of the membrane. Over that portion of bone which constitutes the superior wall of the tympanum it was elevated into a small tumour by a collection of fetid matter, and presented a sloughy aspect. The portion of bone corresponding to this abscess, of a circular form, from about one-fourth of an inch in diameter, was dead, and of a dull white colour. The process of separation from the living bone was far advanced, and at one point of its origin the separation was complete, and the aperture thus formed communicated with the cavity of the tympanum; the remainder of the petrous portion was remarkable for its vascularity; the membrana tympanum had disappeared completely, and the membranous walls of the right lateral sinus, throughout the whole of the mastoid portion of its course, were much thickened, and the lining membrane of the vessel presented a sloughy appearance, being covered with lymph of a greenish hue, and smeared with unhealthy purulent matter. This condition extended along the internal jugular vein and superior vena cava, to within a short distance of the entrance of the latter vessel to the right auricle. The lining membrane of the vena cava was of a dead tawny colour.

IV. *Caries of the Parietes of the Tympanum; Necrosis of the petrous portion of the Temporal Bone; destruction of the Portio Dura in the Aqueductus Fallopii, producing Paralysis of the Muscles of the Face.*

This form of complication with myringitis is of comparative rarity, and with the exception of two cases, accidentally mentioned by Dr. Abercrombie, there is only another complete case on record, and reported by Dr. R. Graves in the Dublin Journal, vol. xx. I have met with one case also in my own experience; but it was complicated with loss of sensation (anæsthesia) of the face, and which I will notice in the next section.

The case of Dr. Graves is as follows:—

A boy, about ten years of age, was admitted into the Meath Hospital, labouring under general dropsy; he appeared of a scrofulous habit, and was much worn down by long-continued diarrhœa. Under treatment his symptoms slowly disappeared. We now observed that the right side of the face was paralysed, and that he had been subject to a discharge from the right ear for seven years previously. The paralysed cheek presented the phenomena usually observed in Bell's paralysis. He was attacked soon after with acute pain in the ear, and in the left side of the head. A fortnight after, convulsions set in; the pain moved from the side to the back of the head, then to the back of the neck, and ultimately extended the whole way down the spine, and about this period the diarrhœa diminished. A few days before his death he was attacked with spasms resembling those of tetanus, and the surface of the body became exquisitely tender to the touch. He never had any loss of motion, and to the last his intellect was perfect. From the period when the pain set in to that of his death the convulsions returned six times.

Post-mortem.—The portio dura was found healthy, the nerve was also healthy from its origin at the base of the brain to the entrance into the meatus auditorius internus. Immediately above this opening the dura mater was of a greenish colour, detached from the bone as if by fluid, and perforated by a round hole, large enough to admit a small crow-quill. On dividing this part of the membrane, the space between it and the bone was occupied by a thick greenish, offensive pus, and the opening in the dura mater was observed to be opposite to the foramen in the petrous portion of the temporal bones, called the *aqueductus vestibuli*. This opening was much enlarged, and the bone of it was in a carious condition.

The nerves at the base of the brain were bathed in this thick green pus, but the organ itself was everywhere healthy and free from excess of vascularity. The arachnoid was thickened and opaque, and the pia mater not more injected than natural. The ventricles were not distended. The theca vertebralis was much distended by the same kind of matter, which flowed abundantly from any accidental puncture of the membrane. The matter was contained in the sac of the arachnoid, which membrane was quite healthy, and presented its usual glistening appearance; no thickening or opacity in any part of its extent. The pia mater was also free from disease; all the attachments of the ligamentum dentatum remained unbroken. The spinal cord, on being slit up, presented no trace of disease. The roots of all the spinal nerves from the base of the brain were bathed in pus, the presence of which fluid on the surface of the brain and spinal cord had, no doubt, irritated those organs, and occasioned the tetanic symptoms and the cutaneous tenderness. The portio dura was traced through the aqueductus Fallopii, about a quarter of an inch from its entrance; the nerve was completely cut through, and the petrous portion of the bone was extensively destroyed, and presented a mere shell. The membrana tympani and all the internal ear were completely destroyed.

It may be further mentioned here that the spot where the portio dura was cut through corresponds exactly to the point where the great petrosal, or vidian nerve, joins the portio dura, and forms the *intumescencia gangliiformis*.

I shall now proceed to consider the fifth section of cases, which, when they do occur in practice, are usually complicated with those of the fourth; viz: paralysis of sensation in one-half of the face—*anæsthesia*.

V. Caries of the Parietes of the Tympanum; Necrosis of the petrous portion of the Temporal Bones; destruction of the Gasserian Ganglion, producing Paralysis of Sensation in one-half of the Face.

When we find paralysis and distortion of the face, with loss of sensation of the parts, we have reason to suspect disease within the head, even without the existence of any active morbid action in the cavity of the ear. These cases have been referred to by the late Dr. Abercrombie in his section on diseases of the nerves; but he has not favoured us with any cases of anæsthesia of the face produced by the previous existence of myringitis. His cases, however, are of great importance, and relate entirely to those of paralysis and anæsthesia consequent on some morbid state of the membranes surrounding the exit of the nerves from the cranial cavity in the substance of the brain at their points of origin or emanation, or in some parts of their course for distribution. The symptoms of such cases are from those of the special case in connexion with myringitis, which I shall relate, in every respect similar to those described by Dr. Abercrombie. The case is as follows:—A young girl, seven years of age, and of a strumous habit of body, became afflicted with scarlatina anginoea in the summer of 1843. She was the daughter of a travelling gipsy, and resided in a wretched hovel in one of the filthiest alleys in the south side of the town. I was called to see her in the course of one of my dispensary visits. It was on the sixth day of attack when I first saw her. The cutaneous eruption, which had evidently been very dark, was almost gone; there was great difficulty in breathing, a hoarse voice, sneezing, cough without expectoration and an occasional slight hemorrhage from the nose. The surface of the tongue and insides of the cheeks were covered with numerous aphthæ; the tonsils were much swelled, but there was no evidence of decided gangrene, though there was considerable superficial ulceration on both sides. The child was delirious, and had been so for twenty hours, screaming wildly, and instinctively putting her hands to her right ear, the right side of her face, and neck. When she was coherent, she complained to her mother of a severe pain coming on in these parts; and when I attempted to examine her ear, she instinctively indicated severe agony, and tried to thrust away my hand. A discharge of matter had taken place from the right ear four hours before I saw her; but the symptoms showed no relief. On examining the mastoid process, it was larger than usual, discoloured, and had a slight feeling of softening and pitting. An incision made into it gave exit to a full teaspoonful of very fetid pus; but none of the small bones, or any gritty particles, could then be found in the discharged matter, or in that coming from the outer ear. A large warm linseed-meal poultice was applied to the right ear and side of the face; two grains of calomel, and three grains of Dover's powder, were ordered to be given every four hours, and, in the intervals, a teaspoonful of weak wine and water.

On the morning of the second day there had been a decided increase of all the cerebral symptoms; the wine and water had been swallowed with difficulty, and part of it ejected again. A small enema of ol. terebinth. and gruel, that had been exhibited the previous night, had operated well in emptying the bowels. The discharge still continued, both from the outer ear and the incision in the mastoid process, and, on examining the concha, I found the malleus and incus bones, with the stapes attached to the latter, there amongst the discharge. Several gritty pieces of bone were also picked out from that of the mastoid process; and I fully concluded that complete destruction of the ear bulb had taken place, and that necrosis of the petrous portion of the bone would follow. No palsy of the muscles of the face as yet, but difficulty in swallowing. The eyeball appeared larger than before, and had a dull look. A feather gently rubbed upon it still gave sensation by a sluggish twinkling of the eyelids. Continued the medicines.

At six o'clock P.M. that day I again called, and found the cerebral symptoms the same. There was more incoherence, and extreme restlessness; she tossed about her hands and legs, and whilst I was present she had a short convulsion. There was now distinct paralysis of the muscles of the face; greater difficulty in swallowing; the eyeball appeared still larger, and seemed to be starting from the orbit. It had become deeply congested, and was quite insensible to the irritation of the feather. The skin of the right side of the face might be pierced or pricked,

but no sensation was evinced. The inside of the same cheek was in a similar state. I rubbed a little strong salt along the inside of the right cheek, and along the right side of the tongue, but no evidence of any sapid body being there was shown, and a similar result followed the giving of a little powdered colocynth. On the left side of the face, however, there was distinctive evidence of sensibility remaining, both to pricking, salt, and colocynth; and the eyeball there was also fully sensitive, and apparently healthy. There was a slight fetid and bloody discharge from the right nostril. On examining the aperture of the mastoid I found a spongy-looking mass of bone impacted in the incision there. This I carefully removed by a slight enlargement of the opening, (the mastoid bone was very soft and easily cut,) and removed a greater part of the mass of the petrous portion of the temporal bone. I then bathed the ear very gently with a sponge saturated with tepid water; gave her a little pure wine, and ordered a beef-tea enema. All the symptoms, as I left, were gradually increasing in severity.

On washing carefully this necrosed portion of bone, I found it still to possess the conformation of the natural bone; its substance, however, was converted into a spongy mass, and the osseous labyrinth of the ear-bulb formed but a general part of the cancellated structure in it. Early on the third morning I found that, shortly after I left, the convulsions came on with great frequency and violence; shiverings repeatedly; singultus, and ultimately coma, and death about four o'clock A. M. A dissection was granted.

Post-mortem appearances.—To be careful in our examination, we succeeded in securing the entire head, stuffing up its place neatly, and leaving it apparently entire. On removing the calvarium and the dura mater corresponding to it, we found but a trifling sub-arachnoid effusion of opalescent lymph. No serum in the sac of the arachnoid there, but some congestion of the vessels of the pia mater on the upper surfaces of both hemispheres of the cerebrum. On slicing off these there were a few bloody points here and there, similar to those found in cases of simple congestion of the veins of the cerebral substance. The lateral ventricles contained about two drachms of serum, and the septum lucidum and fornix were much softened. The choroid plexuses were much congested. On removing the entire nervous mass, we found the dura mater covering the upper surface of the petrous portion of the temporal bone very much diseased; it was elevated, soft, and spongy, of a dullish colour, and apparently on the point of becoming gangrenous. No distinct aperture was found in it, and it was raised up softly in consequence of the cavity from which the necrosed bone had been discharged, that cavity being completely filled with pus, and, floating on its surface, we found the Gasserian ganglion in a state of perfect destruction. The facial nerve was also found destroyed at its entrance into the aqueductus Fallopii, and was found so until the lower part of the stylo-mastoid canal. The whole of the osseous labyrinth had been destroyed and discharged; the osseous portion of the Eustachian tube that opens into the cavity of the tympanum was entire, but evidently diseased, and the internal carotid artery was not affected. Had the diseased action but continued for a few hours longer, the septum between this vessel and the tympanum would have been destroyed, and the vessel would have been opened. None of the tympanic muscles, vessels, or nerves, could be found; the osseous septum between the cavity and the sigmoid groove for the lateral sinus was entire, and no effects had been produced in the jugular vein.

The inferior surface of the right middle lobe of the cerebrum, that lay upon the affected temporal bone, was highly inflamed, and much softened; there was a considerable effusion of lymph at the inner extremity of the right fissure of Sylvius, around the chiasm of the optic nerves, the tuber cinereum, the corpora albicantia, and the locus perforatus posterior, placed between the crura cerebri. The vascularity extended along the right crus cerebri to the mesocephalon, and thence by the right crus cerebelli, to its right hemisphere. To all these parts the lymph affusion was chiefly confined, and there was also some fluid in the cerebellar fossa, the greater part of which had escaped by the removal of the head. The eyeball had not gone on to complete disorganization, but every part of its interior structures showed distinctive evidence that it was far advanced in a state of gangrene. The vitreous body, and all within the iris, were converted into one confused mass.

On dissecting the right nasal fossa and the pharynx, I found the Schneiderian membrane there in a state of extensive ulceration, not only in the general cavity, but also in all the facial cavities. The tonsils and side of the pharynx were also ulcerated; but the pharyngeal opening of the Eustachian tube, though also much ulcerated, was considerably entire. The left side was also much affected, but does not deserve a special description.

It was remarked by Dr. Abercrombie (p. 447), *loc. cit.*, "that a remarkable circumstance connected with the affections of the fifth nerve, is the tendency to inflammation and sloughing in parts which have lost their sensibility, particularly in the eye."

VI.—*Caries of the Parietes of the Tympanum: Necrosis of the petrous portion of the Temporal Bone: Opening of the internal Carotid Artery in its canal of the temporal bone, either alone, or in conjunction with the lateral sinus, or the destruction of the Gasserian Ganglion, or the Facial Nerves.*

From the pathological sequences which I have shown as resulting from the ravages of complicated acute tympanitis, it will be easily understood that the above section of cases can easily form one of their number. The situation of the internal carotid in the canal of the petrous portion of the temporal bone, is not so secure in the nature of its position, or in the thickness of its osseous defences, as to warn us that, some time or other, it will share a little in its destruction, as a sequence of myringitis similar to what has so frequently occurred to the lateral sinus, and to the fifth and seventh pairs of nerves. There are several vulnerable points in the course of the artery in the canal of the bone, and the wonder is, that not one single case of its destruction has been put on record, so far as I can find; but that it is just as liable to destruction as any of the others are, is our decided conviction.

As I cannot present a single complete case to the profession in reference to this section, I must now conclude my remarks on this subject by trusting that some more favoured observer will yet meet with such a case, and thus complete more fully the melancholy test of sequences that may follow acute tympanitis.

ART. 41.—*Summary of M. Ricord's Opinions on Venereal Diseases.*

By VICTOR DE MERIC, M. D.

(*Lancet*, June 24, 1848.)

The great class of venereal diseases comprises two very distinct orders: first, the non-virulent diseases, the type of which is blennorrhagia; the second, the virulent diseases, the type of which is chancre.

First order. The blennorrhagic affections do not taint the constitution, are not transmissible by heredity, and never yield any positive results by inoculation either on the skin or mucous membranes; they are contagious in the manner of irritants, the simple catarrho-phlegmonous discharge being the most common form.

Second order. The virulent affections owe their origin to a peculiar principle, to an ulceration which can be reproduced at will, and inoculable within a certain period. The ulceration always springs up at the very spot where the virulent matter has been implanted, and its evolution takes place in a variable space of time. The virulent effect may remain strictly local, and merely give rise to consecutive phenomena, of which the most common is the suppuration of the inguinal glands; but it may penetrate into the economy, and determine in the same a set of characteristic symptoms. The general infection of the disease is the result of an idiosyncrasy, which does not invariably exist in every individual. The most tangible phenomenon of this infection is the specific induration of the chancre. There is no such thing as a specifically indurated chancre without subsequent symptoms of constitutional syphilis. Once or twice in a hundred cases the induration may be ill defined, and pass unnoticed; but if the attention be directed to the inguinal glands (which inevitably suffer by the infection), the existence of an indurated chancre may by their state be inferred; for a bubo, consecutive to such a chancre, never suppurates specifically. There is no constitutional syphilis

without a primary local accident. When the infection has taken place we may look for the secondary manifestations within a twelvemonth. But if a mercurial treatment be used, these manifestations may be prevented, or retarded for more or less time, or perhaps for ever. When no treatment, however, has intervened, there is an admirable order in the succession of the manifestations, which is denied only by those persons who will not be convinced. Primary, consecutive, secondary, transitory, and tertiary accidents follow each other with the most perfect regularity. But, I repeat it, a treatment breaks up the order altogether. If a mercurial course has been gone through, the secondary manifestations may, under its influence, be retarded for a variable time; but it does not destroy the diathesis, and merely postpones the secondary symptoms. On the other hand, you will remember that the mercurial treatment does not prevent tertiary accidents, and these may even appear whilst the secondary symptoms are being kept off by mercury; the latter may then make their appearance *after* the tertiary accidents have disappeared, and thus the order of the manifestations may be totally inverted. Constitutional syphilis may be contracted but *once*; the diathesis can never be doubled. The diathesis persists, but the manifestations are not certain, or inevitable. This diathesis is not incompatible with health. Syphilitic cachexia is very rare. The nonvirulent affections require no specific medication; neither do the virulent primary accidents. Mercury is used for the latter only in exceptional cases, namely, where the chancre is indurated. Constitutional syphilis demands a mercurial treatment; but when the later secondary symptoms and the tertiary have come on, mercury should be abandoned, and iodide of potassium be taken up. The latter, then, is the medication *par excellence*. Whenever we have to treat any peculiar disorder or affection of the viscera, along with syphilis, we should never lose sight of the indications which belong to that intercurrent disease, and should even delay the specific medication if found necessary.

ART. 42.—*Dynamics applied to Etiology in Surgery—Fractures of the Cranium—Hernia.* By J. P. VINCENT, Esq.

(*Excerpta from "Observations on some of the Parts of Surgical Practice."*)

FRACTURES OF THE CRANIUM.

I. It does not follow that the impetus with which a blow is inflicted should be expended upon the part stricken. The head, as a mass, is made up of structures of various mechanical qualities; some are soft, some elastic, and some hard, with the least degree of elasticity; and in receiving the percussion the various structures may receive the effects of the blow independent of each other. We also find a difference of the injury in the same structure, arising out of the difference in the way in which any given momentum striking upon the part is compounded. Thus, in two blows, the momentum of each may be the same, although the velocity and quantity of matter may differ, if these powers are reciprocal to each other, and then the effects of the impetus may vary considerably. A velocity may be given to a common hammer that may make the momentum equal to a heavy mass moving slowly. Upon these principles it is that great varieties occur from the impetus with which blows on the head are inflicted. If the mass be small, and the velocity great, it must happen that the bone will be fractured and driven in at the part struck; on the other hand, if the mass be great but slowly moved, the impetus acts in a way that allows it to be diffused over the whole head. And in this way great violence may be done without fracturing the bone, which is usually the state in cases of severe concussion. Or the force may be expended at the base of the skull, producing fracture there, and not at the vertex, the part in which the blow may probably have been given; and it still further often happens that in the severe injuries of this kind, where there is evidence of so much internal violence having been produced, that there is no mark of injury in the scalp.

II. The breadth in which a part stricken will break must vary in proportion to the velocity of the striking body, and also to the cohesion or strickage of the matter struck, and the breadth will always be, under any circumstances, some slight degree greater than the impinging body. If the fragility of the inner table be

really greater than the outer, the former ought to be broken in the least possible degree beyond the outer.

It is too readily assumed as a fact that the inner table is always broken to a far greater extent than the outer; but if it is the case, I conceive the explanation to be this: the two tables having a given, although minute space between them, the impetus is broken into two distinct applications. The first blow upon the outer table will necessarily break it to a slightly greater space than the instrument which produces it. After this is effected, then the inner table receives the renewed impetus, which is now imparted to it by the outer table, by which this table, allowing it to have the same frangibility, will be broken to a greater extent than that in which the outer was broken.

III. The direction in which the blow is given alters altogether the effects that are produced on the brain. To explain this it must be remembered that the skull makes, in all its sections, some sort of curve; and also that the contents so nearly approach to the quality of fluid, that every impetus impinged on one part will be transmitted through it in the direction in which the blow is given. If every blow were given at right angles to the tangent of any part of these curves, the effects would be transmitted to the base of the brain. But as this is not always the way they are directed, there are great differences in the effects of fractures, and also concussions, on the sensorial powers. If the blow is in such a direction that it would transmit the impulse to the base of the cranium, the cerebral symptoms will be severe; but if the direction of it transmits the impulse across the brain, then they may be very slight. It is this, I conceive, which has caused some little controversy with surgeons, whether blows on the forehead or on the occiput are the most dangerous. It is not the part stricken, but the direction in which the blow is given, that gives rise to the difference.

About a twelvemonth ago a man was brought to my ward, who had fallen down the hold of a vessel. On examination I found that there was a wound through the upper part of the temporal muscle, on the right side, with a fracture of the parietal bone above the border of the squamous plate of the temporal bone. A piece that a thumb might cover was positively forced in upon the brain, and the surface of the depressed portion was vertical; so that its pressure was from side to side, and not at all towards the base of the skull. This man, who was middle-aged, had never the least symptom expressive of injury to the cerebrum. The depressed piece ultimately became loose, and was removed.

IV. If a blow be made upon the vertex of the skull, whether by the patient falling upon this part, or by the impetus of a moving body, the force may be expended upon and lost in the elastic quality of the bones by which a vibration is produced. The effect of this is to cause a serious concussion of the brain. But if the violence is very great, so that it does not expend its force in this way, then the arched form of the parietal bones which form a cupola, and which is preserved compact by the temporal bones, transmits the impetus to the base of the cranium. In this way it is that fractures at the base of the cranium are produced; and it must be remembered that fractures often occur at the base without the least appearance of contusion or injury to the scalp.

HERNIA.

I. The walls of the abdomen must be considered as a compages of muscular structure, whose action is chiefly employed in keeping up a uniform pressure on the contents of the cavity. But whilst the walls are preserving the cylindrical form of the cavity, the diaphragm is transmitting its powers through the almost semifluid contents of the abdomen. And in the action of this large muscle we possibly may obtain those terms of a problem that shall explain the nature of the formation of hernia.

II. The figure of the diaphragm is that of an arched dome, but having a tendinous expansion in the middle, it is divided into two arches of muscular fibres. Now it is clear that if a muscular fibre takes a curved form, every point in the curve will act in the direction of the versed line to that point, or what comes to the same thing, to the perpendicular of the tangent of the point. If the curves of the diaphragm were those of a sphere, those perpendiculars would all concentrate in one point; but this not being the case, the perpendiculars will be directed

more copiously on some directions than on others: that is, the action of the muscle will be transmitted with greater force to some parts of the boundaries of the abdomen than to others, and thus determine the seat of hernia. If the chest be narrow, the direction of the accumulated impulses may fall low, as well as if the distance from the diaphragm to the pelvis be but little, and so an increased impulse may be directed to the femoral ring, accounting for the seat of hernia in females.

SECT. III.—TREATMENT OF SURGICAL DISEASES.

ART. 43.—*Gastrotomy in Cases of Obstructed Œsophagus.* By Professor SÉDILLOT.

(Condensed in various European and American Journals, from the *Gazette Méd. de Paris*, Jan. 1847.)

The operation here proposed consists in incising the abdominal parietes opposite the anterior wall of the stomach, making an opening into the latter, and connecting the edges of this opening with the external wound, so as to form an artificial fistula, by which sustenance may be administered in cases where irremediable obstruction of the natural passage exists. Such cases, if left alone, are quite desperate, their only possible termination being death by famine; and Sédillot, therefore, holds that it is justifiable to interfere by any means which offer a chance of safety. That the operation which he proposes is not impracticable is proved by various cases (such as that of the celebrated Alexis St. Martin) in which a stomachal fistula occurred, as a consequence of accidental wounds: and also by the experiments of Blondlot on animals, in one of which he kept a dog in health two years, nourishing him by means of an artificial fistula of the kind described. Experiments of this description have also been performed by Sédillot himself with a successful result. With these facts before him, he argues that although gastrotomy ought not to be proposed where there is a probability of life being continued for some time without interference, yet in those in which death is evidently imminent, and where there is no other resource, the surgeon ought not to hesitate about giving his patient the chance of a prolonged existence, and freedom from suffering.

If this be admitted, it is evidently of great importance to keep in view those circumstances under which obstruction of the œsophagus might render such an operation necessary. The author, therefore, enters into an elaborate review of all those lesions of the œsophagus which lead to permanent constriction of the natural passage. He gathers from pathological writers a great variety of cases, which he arranges under fifteen heads, viz:

1. Congenital absence of part of the œsophagus.
2. Stricture in consequence of tumours in the neighbourhood of the œsophagus.
3. Tumours formed between the tunics.
4. Hernia of the mucous membrane.
5. Polypi.
6. Stricture by atrophy of the tube, without appreciable lesion of its walls.
7. Atresia, from cicatrices, with loss of substance.
8. Fibrous stricture.
9. Fibrous degeneration of the muscular coat.
10. Cartilaginous stricture.
11. Osseous transformation.
12. Complete obliteration.
13. Cancerous stricture.
14. Impermeable stricture of the cardia.
15. Fatal œsophageal stricture without known cause.

The cases to which the operation is applicable, as above enumerated, appear to be referable to two divisions: the first being those cases in which the operation is performed without hope of modifying thereby the original diseased condition, and merely to prevent death by hunger; the second, comprising cases in which the original condition is susceptible of modification, and where the establishment of a new passage to the stomach either assists the cure, or prevents the further

progress of the disease. In this respect the proposed operation has a close analogy in its mode of application to the more familiar one of tracheotomy.

The principal cases to which gastrotomy is applicable, according to Sédillot, with the double purpose above mentioned, are those comprised in the fourth, seventh, and thirteenth sections of his arrangement. In the fourth series, in which the mucous membrane is thrust through the ether-tubes, so as to form diverticula, he holds that the constant passage of the food distending these abnormal pouches is certain to keep up the morbid lesion; and, even by dilating the pouches still farther to hasten the ultimate obliteration of the normal passage; whereas, if the operation of gastrotomy be performed, there is a probability that the pouch may, in time, contract and obliterate itself. In the seventh series, comprising all the wounds and inflammatory lesions of the œsophagus, in which there is hope that the judicious employment of catheterism might ultimately restore the tube to its function, Sédillot holds that gastrotomy will often permit us to continue this treatment when otherwise the death of the patient, by inanition, would have frustrated our efforts; and he believes that, in such cases, the chances of cure will often be greatly increased by the complete rest which is obtained in the intervals of treatment for the diseased portion. Finally, in the truly cancerous lesions, where the diagnosis can be ascertained with any degree of certainty, he conceives repose of the part to be of the first consequence, as both catheterism and the passage of food through the cancerous part tend very much to the rapid progress and fatal issue of the disease; and he thinks, therefore, that gastrotomy may possibly be found to be applicable to cancerous cases at an earlier period than that at which death by inanition is imminent.

It is necessary to state that the operation has never yet been performed by Sédillot, although he so strongly advocates its performance.

ART. 44.—*Cauterization as a Remedy for Accidents resulting from Surgical Operations.*
By M. BONNET, of Lyons.

(Condensed from the *Bulletin Général de Thérapeutique*, Feb. 1848.)

Among the "accidents" or consequences of surgical operations, as amputations or the ablation of tumours, which render extensive incisions of the skin necessary,—erysipelas proceeding from the edges of the solution of continuity, step by step, over a large portion of the cutis, phlebitis and purulent absorption, abscesses in the viscera, humid gangrene and the putrefactive fermentation of substances contained in cavities imprudently opened—are not infrequently observed. Nothing in practical surgery is of deeper interest, or more imperiously demands a new investigation, since it may be stated with confidence that art is deficient in resources to counteract the greater part of these complications. Numerous facts have demonstrated to me the powers of cauterization. Practised either with nitrate of silver, potassa, chloride of zinc, or even the hot iron, according to circumstances, it arrests the progress of erysipelas, phlebitis, and humid gangrene, especially when it is applied with energy, and at the period when these lesions are still accessible to its direct action.

Struck with the results, and comparing its harmlessness with the lesions, so frequently mortal, from incision, ligature, or excision of varices, I considered that cauterization should be substituted as much as possible for all the operations which relate to varices. I developed this general principle in a memoir published in 1843, and I considered cauterization especially as a method prophylactic and curative of phlebitis and purulent absorption. The cauterization of hemorrhoids complicated with prolapse of the rectum, in the form of a ring projecting externally, was also considered in this memoir. To these results I could add new facts of another order, as the treatment of four cases of varicocele, in which the destruction of the veins by caustic resulted in complete cure without any risk; but I merely mention them as indicating the generality of the law, and I pass on to the special object of this memoir, that is to say, the study of cauterization as a means of counteracting the accidents above mentioned.

1. *Phlebitis.* For the purpose of demonstrating the utility of cauterization in inflammation of the veins, I cited, in my memoir of 1843, two orders of facts—the one relative to phlebitis the consequence of anatomical punctures; the other, to

phlebitis the consequence of bleeding. Of phlebitis from anatomical punctures, which I had then treated with the hot iron, the cases were four in number. They were all complicated with inflammation of the superficial absorbent vessels. There was enormous swelling of the forearm and arm in three cases, and of the leg and thigh in the fourth. I have only once since this period had occasion to apply the actual cautery to an anatomical puncture, acting as the point of departure of similar lesions. In this, deep cauterization of the wound carried along the course of the diseased vessels was followed by the same result as in the former cases. In the memoirs of 1843, there was but one case of phlebitis, the consequence of bleeding, treated by the actual cautery. The cellular tissue of the whole arm was in this case the seat of suppuration and gangrene. This tissue was cauterised deeply into the seat of the superficial veins. 'Le Bulletin de Thérapeutique' contains an analogous case, in which the actual cautery arrested a violent phlebitis, the consequence of bleeding in the arm.

When the inflammation is confined to a few centimetres round the punctured vein, and not attended with any sign threatening gangrene, we may content ourselves with less powerful caustics, and such as are more easily applied. We may use Vienna caustic, or caustic potassa. In a case of very painful inflammation of the foot, developed from a puncture of a vein in the foot, in bleeding, six days previously, the chloride-of-zinc paste introduced into the large opening occasioned by the bleeding, and allowed to remain for eight hours, produced an eschar fifteen millimetres in diameter, and completely limited the progress of the inflammation.

Purulent resorption. It would be the triumph of therapeutics to cure this disease, so constantly mortal, and so frequently the result of the larger operations. Aware of the power of the actual cautery to check phlebitis I naturally tried it in cases of purulent absorption. The results were not very favourable; and it is easy to understand that its efficacy must be limited, especially when the absorption follows amputation. In fact, phlebitis, which precedes and generally involves as a consequence purulent resorption, occupies the veins which accompany the arteries, or those which make an integral part of the medullary tissue of the bone. We can only reach the large extremities at the surface of the wound, and it is impossible to cauterize them in their course. When unquestionable symptoms of purulent resorption manifest themselves, pus has already formed in the interior of the viscera, as the liver and lungs, and death is an inevitable consequence.

In spite of these unfavourable conditions, deep cauterization of the wound is the only means which offers any chance of success. In five patients, whose cases are given in the memoir of 1843, three died as quickly as if the cautery had not been applied; a fourth lived three months, the wound resulting from an amputation having been deeply cauterized with chloride-of-zinc paste. He escaped the results of that dreadful disease, from which he would have perished in less than a week. The fifth case, which was cured, resulted from the ablation of a tumour from the side of the tendo Achillis.

M. Cauvière, of Marseilles, has employed the actual cautery in three cases of purulent resorption; in one of which it was completely successful. Since cauterization is the only method which has produced any satisfactory result, I advise its employment, especially at the commencement of the affection, at the period when the swelling and pain in the neighbourhood of the wound indicate that resorption is imminent. It may be done with the actual cautery, or with the chloride-of-zinc paste, which should be left in the wound from twelve to twenty hours.

In a communication to the Academy of Sciences, the 13th of September, 1847, M. Gouyon advised dressing with a solution of three grammes of nitrate of silver in thirty grammes of water. He does not give cases in support of his practice; but the very superficial cauterization thus obtained is probably not so useful as the deep cauterizations which I employ, even these being frequently insufficient to localize the disease.

Traumatic erysipelas. This kind of erysipelas must not be confounded with erysipelas from an external cause independent of an injury, from which it differs in its nature, symptoms, course, gravity, and treatment. No relation can be established between simple erysipelas and inflammation of the lymphatic ves-

sels; but frequently, from the commencement of traumatic erysipelas the skin is observed to be streaked with red lines following the direction of the lymphatics, and which subsequently uniting, give birth to well-marked erysipelas. In spontaneous erysipelas, the diseased part is insensibly blended with the healthy part, and it generally stops where it was originally developed; in traumatic erysipelas, on the contrary, a red elevation, a line of demarcation, separates the erysipelatous from the sound skin, and the evil, at first confined to the site of the wound, encroaches gradually, and frequently to a great extent, upon the healthy part. While spontaneous erysipelas is frequently accompanied with only simple oedema of the cellular tissue, mortification of this tissue is as frequent a consequence of traumatic erysipelas; and this is inevitable when traumatic erysipelas attacks the skin of the penis or scrotum. Simple erysipelas is frequently unattended with any danger; the prognosis in traumatic erysipelas is, on the contrary, always unfavourable. Its appearance when the wound is deep, leads us to apprehend the development of purulent absorption; it is attended with delirium when it occurs on the hairy scalp; and frequently, without either of these complications, it proves fatal.

The treatment of traumatic erysipelas, compared with that which is proper for the simple variety, is not less different. While emetics and divers local applications, as vinegar and water, mercurial ointment, &c., appear to produce the most marked results in the latter, which gets well in a few days under the influence of such treatment, or simply by the expectant plan, the former pursues its course in spite of internal remedies or the local applications usually resorted to. A special mode of treatment can alone arrest its progress. The object of such treatment must be to destroy as much as possible the putrid principles which may be absorbed from the surface of the wound, and to limit the erysipelas to the part which it has already invaded.

Cauterization is the only means by which we can obtain this double result, at the same time that it is the only remedy possessed of any efficacy against phlebitis and purulent absorption; it is the only useful remedy in traumatic erysipelas, which has so close a relation to those affections in its courses and intensity. It may be done with concentrated solution of nitrate of silver, or caustic potassa, applied to the surface of the wound and the affected skin, as employed by Mr. Higginbottom, and subsequently by M. Fanchou. We may use an ointment of nitrate of silver, as recommended by M. Lobert, containing four, eight, or twelve grammes of the nitrate to thirty-two of water, according to the intensity of the disease. These means will suffice in slight cases; but there is a better chance of succeeding by cauterizing the wound deeply, which is the point of departure of the erysipelas. When difficulties present themselves from the extent and depth of the wound, and the surface occupied by the erysipelas, the deep cauterization may be advantageously combined with superficial cauterization of the skin. In the cases in which the traumatic erysipelas makes rapid progress, and neither the nitrate-of-silver solution nor deep cauterization of the wound puts a stop to it, the actual cautery should be resorted to. Larrey recites two very remarkable cases of success obtained by the cautery applied in numerous spots over the erysipelatous surface, and insists on the advantages of this treatment. I have had to regret not having adopted this bold practice under many analogous circumstances.

[The principles advocated in this paper are illustrated by the following cases:]

1. Laceration of the skin of the fore-arm; traumatic erysipelas; cauterization with nitrate of silver; rapid cure.
2. Traumatic erysipelas of the hairy scalp, succeeding to the opening of an abscess; cauterization of the whole internal surface of the abscess; almost immediate cure of the erysipelas.
3. Extirpation of a scirrhous tumour of the breast, and of numerous glands in the axilla; traumatic erysipelas; cauterization of the bottom of the wound, and employment of nitrate-of-silver ointment; cure.
4. Section of the sphincter in a fissure of the anus; traumatic erysipelas; useless cauterization of the wound with chloride of zinc, and of the erysipelas with nitrate of silver; actual cautery; gangrene of the scrotum; cauterization of this part with chloride of zinc; alarming complications; cure.

ART. 45.—*A New Mode of Treating Deafness when attended by partial or entire Loss of the Membrana Tympani, associated or not with Discharge from the Ear.* By JAMES YEARSLEY, Esq.

(Excerpta from a Pamphlet forwarded to the Editor of the Half-Yearly Abstract.)

In 1841 a gentleman came from New York to consult me under the following circumstances:—He had been deaf from an early age, and on examination I found great disorganization of the drum of each ear. On my remarking this to him, he replied, "How is it, then, that, by the most simple means, I can produce in the left ear a degree of hearing quite sufficient for all ordinary purposes; in fact, so satisfied am I with the improved hearing which I can myself produce, that I only desire your assistance on behalf of the other ear." Struck by his remark, I again made a careful examination of each ear, and observing their respective conditions, I begged him to show me what he did to that ear, which I should unhesitatingly have pronounced beyond the reach of medical art. I was at once initiated into the mystery, which consisted of the insertion of a spill of paper, previously moistened at its extremity with saliva, which he introduced to the bottom of the meatus, the effect of which, he said, was "to open the ear to a great increase of hearing." This improvement would sometimes continue an hour, a day, or even a week, without requiring a repetition of the manipulation. Such an interesting fact could not fail to excite my attention, and it naturally occurred to me to try so simple a method in other cases. I did so in several which appeared to me to be identical with that of my patient, but I invariably failed. I was on the point of abandoning the idea that the remedy could ever be made available in practice, and of considering either that my American patient's case was unlike all others, or that it depended on some idiosyncrasy, when it happened that a young lady came under my care, by the recommendation of Mr. Squibb, surgeon, of Orchard-street. She was the daughter of wealthy parents, whose anxiety for her relief was so great as to induce them to bring her to me long after I had discouraged their visits and openly expressed my inability to relieve her. She had become deaf at a very early age, after scarlatina, which had produced disorganization of the drum of each ear, and the deafness was extreme. With little expectation of success, after so many previous failures, I was induced to apply the new remedy, with some modifications upon my previous experiments. Instead of adopting my American patient's plan, it occurred to me to try the effect of a *small pellet of moistened cotton wool, gently inserted and applied at the bottom of the meatus, so as to come in contact with the small portion of membrane which still remained.* The result was astonishingly successful. On the evening of a day in which she had risen from her bed with the sad reflection that she must be for ever debarred from social converse and enjoyment, she joined the family dinner party, and heard the conversation which was going on around her with a facility that appeared to all present quite miraculous. Day after day the remedy was applied with the same marked success, and eventually she learned the art of applying it herself, and thus became independent of me. It was observed that, *until the wool could be brought in contact with a particular spot at the bottom of the meatus, the hearing was not at all benefited, on the contrary, was prejudiced; but the moment it was properly adjusted on that particular spot the hearing was restored.* Subsequent experience, in a vast number of cases, confirms this remarkable fact. It is not merely necessary to insert moistened cotton wool to the bottom of the meatus. Such a manipulation would in most cases add to the deafness. It is essential to find the spot on which to place the wool, and adjust it so as to produce the best degree of hearing of which the case may happen to be susceptible. This of course differs according to the variety and extent of the disorganization.

For nearly five years this young lady has used the remedy with undiminished success.

Mr. Griffiths, of Pantgwyn, did me the honour to consult me about a young friend labouring under an affection of the throat. During the consultation it was necessary for me to raise my voice very considerably to make myself heard by Mr. Griffiths, and I observed that when he blew his nose he distinctly passed air through the tympanum. After the consultation, I alluded to his deafness, and the probability, that by a new remedy I could afford him some relief, more especially

as he had unconsciously revealed to me, in blowing his nose, a state of ear favourable for success. He readily assented to a trial; and I must be permitted to quote his own statement of the result. On the remedy being applied, he says, "To my utter astonishment I heard every sound so loud, that I felt I had never known what it was to hear until that moment. On entering the streets, the noise was so intense that I was compelled to stop up my ears to deaden the sound; but after a time I became accustomed to it, and can now enjoy the pleasures of social converse without straining my auricular organs, or being obliged to be addressed in a considerable elevation of voice. Personally I continue to apply the remedy with the same beneficial effect, and am convinced of its permanent nature, when persevered in and properly attended to."

The following brief history of Mr. Griffith's case, as detailed by himself, is interesting in many points of view:—"The crisis of a severe attack of scarlatina in my infancy was attended by abscesses in both ears, which produced deafness, and a continual discharge of purulent matter, more or less, until I attained my twenty-second year, when the latter ceased. Occasionally concretions of wax formed in the passage, increasing the deafness. These were removed by syringing, after which a thin pellucid fluid would issue from the ears, during which my hearing was much improved, again becoming worse as the discharge ceased. While the discharge lasted I experienced a slight tenderness in my ears, which also ceased with the discharge. I find that your remedy sometimes does the same thing, and that is my reason for not constantly using it; but if it is *not* applied, my hearing is not in the least degree remedied! The discharge is always more profuse when in bed, even without the remedy, and I am somewhat puzzled to account for it."

From this communication, written three or four weeks after his visit to town, it appears that the remedy at first set up an irritation in the ear, which occasionally rendered it advisable that it should be discontinued; but now I am enabled to state that such obstacle to its use no longer exists, and that he applies it regularly, uninterruptedly, and with undiminished success.

This case, like the first quoted, proved to be one in which there was a loss of a great portion of the *membrana tympani*; and I may here observe, that all my experience tends to show that this is an essential condition of the ear for success. At the present time I can refer to not very far short of *two hundred cases* in which the new treatment has been successful, and in all of which, more or less perforation or destruction of the membrane exists.

A very small quantity of wool is sufficient. It must be moistened in some fluid without any compression, and gently pushed down the meatus with the point of a probe. I have had constructed for the purpose a set of instruments which are calculated to meet and overcome every difficulty; for I need scarcely say that it is very easy to talk of passing a foreign body down the meatus, but it is not so easily done.

With a few rules, which of course vary with the case, the patient may be taught to manipulate upon himself, and all that is required is to remove the dry wool, and replace it with moist, night and morning, or morning only. This is quite sufficient to maintain the improved hearing at intervals.

It will be expected that I should say something of the *modus operandi* of this new application; but I can offer nothing that is conclusive. It has appeared to me in some way or other to supply the place of the lost membrane. The moisture is absolutely necessary to its perfect action; for when the wool becomes perfectly dry it impedes rather than improves the power of hearing. Is it possible that moist wool placed at the extremity of the meatus can transmit the vibrations of sound in the same manner as the natural membrane, or must we look for some other explanation? However, of its relieving this kind of deafness there can be no doubt.

The experience of several years has taught me that it is impossible to convey to others, in words, such explicit directions as shall enable them to manipulate with any degree of certainty. In fact, it was on this account that I have so long held back from publishing any account of the remarkable fact I had observed in my practice.

The rules, the observance of which is essential to success, more especially apply

to the discrimination of the case—the preparation of the ear—the size of the pellet of wool—the degree of moisture—the degree of pressure—the precise spot on which to place the wool—under what circumstances to omit it, and when to resume it, &c. &c. In the absence of such knowledge, circumstances might arise by which not only the patient, but the practitioner might possibly do some serious injury. An instance of the kind has lately occurred. A surgeon brought a case to me in which the treatment was successful; and having seen me produce a great improvement in the hearing, he thought he should be able to succeed also, without further assistance. He inserted the wool, but could not reach the necessary spot; and in endeavouring to withdraw it again some injury was done, which completely ruined the ear for future treatment. I have never since been able to get the remedy to act in this case. Although it is impossible in words to convey all the necessary information, it will at all times afford me great pleasure practically to illustrate the subject before any practitioner who will favour me with a visit.

As I have already shown, the cases in which the new treatment is at present found applicable are those in which there is partial or complete loss of the membrana tympani: such cases are very frequently accompanied by otorrhœa; but whether this symptom be present or not, the remedy may be found successful.

When internal otorrhœa has become chronic, and the membrana tympani seriously diseased, it appears to me, that so long as the discharge is moderate, and the deeper-seated structures of the ear unaffected, if a tolerable amount of hearing remain, the subject of it is in as good a position as regards hearing as is compatible with the nature of such cases. It is found that the use of astringents to the ear, whether they diminish the discharge or not, invariably aggravate the deafness, sometimes causing permanent tinnitus; and even if the discharge cease spontaneously, which it sometimes does, the hearing is always worse than during the discharge. These circumstances, together with the possibility of inducing cerebral inflammation, taken with the fact, that in the great majority of cases otorrhœa remains during the whole lifetime without injury to the patient's health, and without annihilating the sense of hearing, are sufficient to make us direct our attention to the preservation of the patient's health and the maintenance of as great a degree of hearing as possible without the suppression of the discharge. If a good state of health be preserved, and the exciting causes of ear-disease be avoided or guarded against, there is little risk of the fearful termination which attends the spread of the disease inwards to the brain. But as age advances, there is a natural tendency to the suppression of ear-discharges of all kinds, and their spontaneous disappearance is rarely, if ever, attended by any ill effects, but the desirability of such a termination is lessened by the increase which takes place in the deafness.

Happily, the moistened cotton-wool now presents itself as a remedy for such cases, and my experience justifies me in saying, that in a very great majority, when skilfully applied, it will materially add to the comfort, gradually lessen the discharge, and vastly improve the state of hearing.

With respect to the instruments which I use, I may briefly state that they consist of a pair of small forceps, weak in the spring, so as to admit of the blades coming accurately together with the slightest possible pressure. This instrument should differ from the ordinary forceps in another respect; namely, the blades or prongs should have no roughness at their extremities, and should be so rounded as to act as a common probe when in apposition. The intention of this instrument is of course to introduce the moistened wool to the bottom of the meatus, having done which, they should be disengaged from the wool and withdrawn. The blades being then brought together, the forceps may be again introduced, acting as a common probe, for the purpose of adjusting the wool on the spot, which, when covered, produces the best degree of hearing of which the case may be susceptible.

An instrument, then, is required for the introduction, the adjustment, and the withdrawal of the wool; I need scarcely say, that the forceps I have described is sufficient, in dexterous hands, to accomplish these requirements; but I have found that my patients have preferred a separate instrument for the adjustment as well as the withdrawal of the wool. For these purposes, therefore, I have constructed

a simple rounded bar of silver, probe-pointed at one extremity, and with a small screw at the other: the one end serves to adjust the wool, the other most surely will entangle and withdraw it. These instruments may be procured of Messrs. Weiss, in the Strand, or of Mr. Thompson, Windmill street, Haymarket.

A few words as to the mode of applying the wool. The practitioner should get a view of the tympanum, and make himself acquainted with the nature and extent of the disorganization. This he will be able to do with the aid of my *speculum auris*, a description of which appeared in the 'Lancet' so far back as September 1839. It is chiefly distinguished from other specula by having a roughened surface at the extremity of each blade externally, to the extent of a quarter of an inch. The roughened blade clings to the meatus, and enables the operator to *straighten* as well as to *dilate* the passage, and a much better view is thereby obtained. A small piece of fine wool, differing in size according to the case, and fully moistened in water, is then introduced through the speculum to the bottom of the meatus, and adjusted superiorly, inferiorly, anteriorly, or posteriorly, according to the situation of the perforation and other circumstances connected with the case; but care must be taken that the entire opening be not covered, otherwise the experiment will not succeed. It is also indispensable to success that the moisture of the wool should be preserved.

ART. 46.—On the Treatment of Gunshot Wounds. By M. VELPEAU.

(*Excerpta from a Course of Lectures, translated for the Lancet, by Victor de Meric, M. D., M.R.C.S.E.*)

AMPUTATION.

The principal question to be decided in these cases refers to the adoption of primary or secondary amputation. Before attempting a solution of the problem, it will be well to consider the different stages through which a person, upon whom a complicated gunshot wound is inflicted, usually passes. The first is the period of stupor; this is the result of the sudden shock which the nervous system, and, in fact, the whole organism, experience by the reception of the wound, the patient being mostly in a state of great excitement at the time. This period lasts generally from twenty-four to thirty-six hours, and is followed by the second stage, which is the period of inflammatory reaction; this will appear towards the second or third day, and is analogous to the period of elimination in burns. In alluding to burns, our forefathers firmly believed that gunshot wounds were always complicated with severe burning. You are probably aware that such is not the case; modern surgeons have fully shown that this supposed complication is quite imaginary. Still, I must not omit to remark that gunshot wounds, although they never be complicated by actual burns, have nevertheless several analogies with the latter. For the ball breaks down the textures, not by the caloric with which it may be charged, but by its violently bruising effects, so that the results are very similar to those of severe burns; and besides this resemblance, you may notice that the period of reaction in gunshot wound is marked, like the same period in burns, by the casting off of the sloughs.

The period of reaction has two phases: the first is characterised by swelling and inflammation, and extends over two or three days; and the second, by the formation of a slough, and an ichorous discharge. After this second period, as that of reaction, comes the third period, the principal character of which is suppuration. The primary or immediate amputation ought to be performed in the period of stupor; we should not wait until inflammation has set in, for it would continue in the stump, and go on invading the parts until it fastened upon the trunk. If from some consideration or another you do not amputate in the first period, it will be advisable to put off the operation until the third stage, viz: the period of suppuration, has set in. It is a very difficult matter, indeed, to decide immediately whether such a great calamity as the loss of a limb should be incurred or not; and I do not think it possible for the surgeon to give a positive opinion, on the receipt of the injury, as to whether it is really impossible to save the limb. Faur was not ignorant of this difficulty, and he came to the resolution of entirely rejecting immediate amputations, for fear of cutting off a limb which might have been pre-

served. But Boucher, who was a warm adversary of his on this point, contended that Faur, by his anxiety to save limbs, lost a great many patients. Cases of gunshot wounds, complicated by fractures of the femur, are the most puzzling of all; for the fractures, at first sight, do not seem very serious; but a sad experience has nevertheless taught us that they almost always necessitate amputation: such is the opinion of Larrey, Percy, Gaultier de Claubry, &c. Surgeons engaged in civil practice endeavoured, in 1830, to avoid amputation in cases of complicated gunshot wounds of the thigh. Out of eight, or nine such cases, which I treated in my wards at La Pitié, two recovered without amputation, three with secondary removal of the limb, and the rest died. Dupuytren and Lisfranc had also a few recoveries; and several amputations which were performed at the hospital of St. Cloud were followed by complete recovery. The consequences of secondary amputations are, in fact, more favourable than otherwise, because the patients escape the danger of the period of inflammatory reaction, which they have already gone through. But it so often happens that an amputation which at first gave the very best hopes of a happy issue, becomes unadvisable after a short time, on account of local disorders, or the weak state of the patient, that it is our bounden duty, in a great many cases, to have recourse to immediate operation.

When we are called upon to decide the question of primary amputation we should consider, first, the gravity of the wound, *per se*, and then the nature of the instrument by which it is inflicted. Wounds made by bayonets, lances, swords, &c., hardly ever require immediate amputation; it is for gunshot wounds that such an operation is almost exclusively required. During the conflict which a few days ago brought so many wounded into our wards, very few large projectiles had been fired: you are aware that these will inflict injuries of such a dreadful description as mostly to require amputation without delay, for such wounds are always of a very serious nature. Deer-shot, small shot, &c., produce wounds which very rarely necessitate the removal of a limb; but it is not so with musket balls, for they are propelled with such force and velocity that they will divide vessels and nerves, and shatter bones into pieces. An ordinary compound fracture, in the vicinity of an articulation, often renders amputation imperative; but the necessity of such a step becomes absolute and unavoidable, if the compound fracture be the result of a gunshot wound. Gunshot wounds also bear some resemblance to poisoned ones: they soon generate really venomous principles. These wounds consist generally in a sort of channel dug out in the very thickness of the textures; the parietes of this channel are bruised and triturated, and the channel itself contains a detritus and slough, which are floating in blood; this blood remains stagnant under a temperature of about 90°; confined and hemmed in by disorganized tissues, it soon undergoes decomposition, gets putrefied, and becomes actually poisonous. If under such circumstances resorption should take place, it is clear that the system will be contaminated by these deleterious principles, and the subsequent phenomena resulting from the stagnation of this noxious liquid sufficiently prove this to be the case. We should therefore not wonder that the surgeons of the fifteenth and sixteenth centuries should attribute the continued and intermittent fevers, the adynamia, the yellow tinge of the face and of the rest of the body which mostly accompany gunshot injuries, to some poison conveyed into the wounds.

If the wound, already dangerous enough by being inflicted with a ball, be complicated by the fracture of the bone, and this fracture be situated in the vicinity of an articulation, there is not a moment to be lost, and the removal of the limb should at once be effected. We recognised three periods in the progress of gunshot wounds; I have to add that between the first and the second there is an intermediate one, which is characterised either by hemorrhage or gangrene. When dangerous hemorrhage occurs after the period of stupor, you should amputate at once, and not wait for the suppurative stage. If, in the same way, gangrene were to appear after the period of prostration, you should not delay the operation an instant, for the swelling would soon prevent you altogether from resorting to the knife, and you would thus lose the only chance of saving your patient. I am bound to tell you that all surgeons do not agree with me in this respect; many think that no amputation should be performed with traumatic gangrene before the latter is distinctly limited. I am much encouraged to follow this line of practice by the good results obtained in the case I operated on the day before yesterday.

That individual had his leg and knee shockingly shattered by a ball on the 24th of February; he refused the immediate amputation, and the leg two days after was extensively sphacelated; I therefore took off the limb early on the 27th, and the man is doing well. I did not use chloroform for that patient, nor shall I take advantage of this anæsthetic agent for the patient who is about to be brought in, because the chloroform evidently depresses the nervous system, and as great prostration always exists in patients who have received gunshot wounds, it is advisable to refrain from any anæsthetic means.

GANGRENE.

Gangrene occasioned by gunshot wounds may be divided into two kinds—the gangrene resulting from a direct cause, and gangrene following upon an indirect cause. The first is unavoidable, and the natural result of the peculiar class of wounds which we are studying. It is principally owing to the contusion and trituration of the soft parts, which are left in a bruised state, and may vary a good deal in intensity. Thus it may involve very thick or only thin layers of textures, and it will, in general, be more severe when seated within bones than in the soft parts, for the latter recede and give way to the force of the projectile, whilst the former, which offer resistance, get more or less crushed. The gangrene resulting from an *indirect* cause is that mortified state of parts which, in general surgical practice, goes by the name of gangrene: it results from, and is, in fact, an effect of, the wound, but does not appear within the latter, and cannot be said unavoidably to follow all gunshot injuries. Of this species of gangrene there are two varieties: the first occurs by the influence, and the very fact of the existence, of the wounds; the second is excited by the inflammation consequent upon this same wound. The first of these two species may be said to depend, first, on the lesion of the bones; second, on the injury done to some nervous trunk; third, on a lesion of the arterial or venous vessels; fourth, on the crushing of the parts. When a ball in its transit through a limb meets with vessels, it may, by this circumstance, occasion several distinct lesions: the principal artery and its larger branches may be injured, and gangrene almost unavoidably occurs in such a case; or the principal arterial trunk may alone be wounded, and gangrene may then not occur at all. If the artery and vein are injured at the same time, gangrene will be almost unavoidable; for, granting that the blood may reach the extremities of the limb by collateral arterial circulation, it is nevertheless but too true that the venous circulation will necessarily be interrupted; blood will get effused between the various tissues, and the consequence of this state of things will be, sanguineous infiltration and engorgement, great distension, and, finally, gangrene. If, on the other hand, the limb is supplied by several *important* arteries and veins, gangrene will not necessarily ensue, although a principal artery and vein have been injured, for the circulation may be carried on by the good-sized vessels which remain uninjured. Thus may the patient escape gangrene, even when both femoral artery and vein have been wounded, for it is extremely probable that the circulation, in such a case, will be continued by the profunda and its vein. Violent division of nervous trunks is also a cause of gangrene. However, in a limb supplied by several large nerves—as in the arm, for instance—the division of one or two of them will not inevitably bring on gangrene; but if the greater number of the nerves distributed to a limb experience a severe lesion, there will not only be paralysis, but gangrene also. A solution of continuity in the skin, however extensive it may be, is never followed by mortification: the same may be said of the muscles, provided the larger vessels and nerves have escaped. Nor is the mere crushing of the bone a cause of certain sphacelus; but if this injury be accompanied by a laceration of vessels and nerves, as well as bruising and trituration of the soft parts over a large extent, gangrene will inevitably follow. But it is not sufficient for the surgeon to know that sphacelus is a frequent complication of gunshot wounds; he should go further, and endeavour, by the knowledge of this fact, to frame certain rules of practice calculated to promote the safety of his patient.

It is in the power of the surgeon, within certain limits, to give a pretty accurate prognosis as to gangrene, by carefully observing the amount of havoc done by the vulnerating agent. Still many difficulties start up. Thus, when hemorrhage

takes place, it may often be extremely hard to say whether the blood proceeds from an artery or a vein; for the tearing, crushing, and bruising of the parts will prevent the blood from issuing *per saltum*. The division of an artery may, on the other hand, cause no hemorrhage at all, for the vessel may be plugged up by a very hard clot, or the blood may get infiltrated among the neighbouring textures without finding an outlet. When an artery has been wounded, we may have two kinds of hemorrhage consequent upon the injury—the gush of blood may be immediate, or may, after some time, follow the detachment of the slough, that the surgeon may well be puzzled when he is expected to found the more or less gravity of the prognosis upon the data furnished by hemorrhage. If the wound implicate at least half the thickness of the soft parts, and vessels and nerves of some size are distributed to the injured textures, there is a great probability of gangrene. To sum up these considerations, it may be said, that when the surgeon has to deal with a gunshot wound, he can, to a certain extent, foretell whether the injury will be complicated with gangrene or not; but there are cases where a decided opinion on this head cannot conscientiously be given.

The prognosis of gangrene, consequent upon a gunshot wound, is far more unfavourable than in cases of mortification complicating an ordinary wound. But spontaneous gangrene, on the other hand, is still more dangerous than *ephacelos* following a gunshot wound, for the former mostly depends on a cause over which surgery has no control. It may, for instance, be consecutive to a spontaneous arterial lesion, or to some morbid alteration of the whole organism, &c. The arterial lesion consists mostly in arteritis, followed by an occlusion of the vessel, or in some degeneration of the artery. Accidental gangrene is far from being so serious as spontaneous mortification; for though the former as well as the latter depends on the lesion of vascular trunks, it must be noticed that this lesion in traumatic gangrene is merely local, and that it can be remedied by the assistance of art. Gangrene which occurs as a complication of gunshot wounds is more dangerous than that which follows ordinary wounds, because the projectiles which inflict the injury bruise the soft parts, tear and violently divide the vessels and nerves, and crush the bones. This sudden trituration soon produces a mass of putrescent matter, which, by its deleterious effects, acts very unfavourably on the economy, and actually causes the poisoning of the system.

The treatment must be strictly surgical, and may be at once summed up by stating that there is nothing to be done but to remove the part attacked by gangrene. It was the custom formerly, before the tying of arteries was practiced, to allow the mortified parts to be cast off by the efforts of Nature. But as we now-a-days understand the application of ligatures to arteries, or the torsion of these vessels, we prefer amputation to the natural eliminating process; for, by allowing the latter event to take place, we run the risk of giving the patient a very bad stump, with the bone protruding the cicatrix, because gangrene always acts more powerfully on the muscular than on the osseous textures. It is a very safe rule at once to have recourse to amputation; but great attention should be paid to the general state of the patient, for a commencement of absorption of the deleterious principles would be a strict counter-indication.

It is evident that the organism contaminated by poisonous principles from a double source will not be able to cope with these formidable attacks; this life or death contest will not last long; the patient will be soon exhausted. Therefore, I may lay it down as a general rule, that it is good practice, when gangrene results from gunshot wounds, to amputate before the appearance of the line of demarcation. This, however, is to be taken as a precept offered *à priori*, and I am bound to add that this, as well as all rules, has some exceptions. If, for instance, as M. Larrey very justly observes, the gangrene begins at the extremity of a limb, or at the finger's end, we may safely wait until the line of demarcation is formed; but if the mortification were to occur in the thigh or middle of the arm, immediate amputation, before the formation of the boundary line, is the only chance left for the patient. The wounded, upon whom amputation is thus performed, before the gangrene is clearly limited, are by this very fact rather unfavourably situated. You can convince yourselves of the exactitude of this statement, by observing the two men upon whom I lately operated; one of them, as you recollect, had his arm amputated, the other, his leg. The stumps are flabby, suppuration is very scanty,

and the whole economy seems depressed and exhausted. Now it must be confessed that this unfavourable state of things is not so likely to occur when the gangrene has been allowed time to limit itself. And yet, in spite of this, I must repeat, with reference to gangrene, what I said when speaking of fractures, viz: that we are very often obliged to amputate before the limits of the gangrene appear, for fear of rendering the operation hopeless by injudicious delay, and thereby losing the only chance of saving the patient: just in the same way as it very often happens with fractures, which frequently call for immediate amputation, driven, as we are, by the apprehension that the operation may, at a later period, become quite useless.

DILATATION.

There was a time when it was the rule to cut or dilate immediately gunshot wounds; many surgeons still hold to this practice; and the following are the arguments on which they base their treatment:

It was thought that circular wounds and ulcers could not cicatrize. In effect, it was argued by one party, in order that cicatrization shall take place, it is necessary that all the points of a wound or an ulcer should be in contact; but this is impossible in a round wound: hence it was argued that another shape was necessary to make it heal. This reasoning is not valid at the present day, for it is perfectly well known that round wounds can cicatrize; that the whole of their circumference and their depth produce granulations, the result of which is the formation of a layer of new tissue, which at length becomes level with the skin, of which it assumes all the characteristics.

Although this principle should be proved false, yet dilatation should be employed, nevertheless, for two reasons—1. In order to obviate strangulation. 2. To give room for probing foreign bodies contained in the wound. This last reason is valid in a great number of cases; in fact, it is rare that there do not enter with the ball other foreign bodies of various kinds, as fragments of dress, paper, &c., with which the ball has been in contact, and which are pushed before it. Thus even the portion of skin which it carries before it, and is found in the middle of the tissues, is to be regarded as a foreign body. Hence we see that gunshot wounds frequently contain foreign bodies, and, in order to their discovery and extraction, it is necessary to enlarge the wounds, for which reason dilatation is useful. But, even as thus considered, incision should not be practised as an invariable rule, because if there be no strange body, or if it can be easily seized, it is not necessary; and, to sum up, there is no necessity for dilatation, except space be required to lay hold of any extraneous substances.

INCISIONS.

Incisions are, in general, not necessary to prevent distension and strangulation of parts. The act of freeing the textures prospectively is fraught with danger. I have no doubt that we hazard the life of our patient very materially if we lay open the whole trajet of the ball, as advised by Dupuytren. I would lay it down as a rule, that the practice of making incisions in order to free apprehended engorgement and distension as resulting from gunshot injuries, does not rest on sound principles, and should decidedly not be indiscriminately adhered to. The use of the knife should be restricted to peculiar circumstances, where its interference is of obvious utility: thus, incisions may be made in order to facilitate the extraction of foreign bodies which the surgeon finds it difficult to reach; or to get rid of the distension of an aponeurosis kept on the stretch by an effusion, and which might determine troublesome strangulation of the parts; or, lastly, where such tightening and strangulation have actually occurred.

EXTRACTION OF FOREIGN BODIES.

If the foreign body lies free and unconnected in the wound, and its extraction will not produce further mischief, get rid of it by all means. But it often happens that these foreign bodies are still connected with the tissues; thus may bony fragments, in comminutive fractures, adhere strongly by some points of their surface either to the shaft of the bone or to the periosteum, or to any of the textures connected with the osseous structure, whilst other splinters of bone are quite de-

tached. The latter should be, of course, removed at once; whilst the former should not be disturbed, and their extraction postponed. Some of the fragments are sometimes very small, and could hardly be seized; the eliminating process should, in such cases, be left to Nature; they will commonly be cast off by suppuration, as are, in fact, all the tissues which the violence of contusion has changed into an eschar. What are we to do with regard to the balls? It happens so often that they cannot be discovered, in spite of the most diligent search, that it will be advisable not to trouble ourselves much about them. If a ball strikes the front of the chest, and comes obliquely in contact with a rib, its course may suffer a complete deviation, follow the convexity of the rib, and lodge in the back, close to the vertebral column, without penetrating the chest at all. What would be the advantage of searching for it in such a case, and thereby make two wounds instead of one? If the ball has actually entered the chest, we must not suppose that the danger of such an injury lies in the presence of the ball within the thoracic cavity; it is the lesion of the viscera which principally puts the life of the patient in peril. Supposing the contents of the chest really wounded, and that we were to enlarge the wound in order to search for the ball, we by this procedure facilitate the entrance of air through the aperture made by the projectile, and its reception into the track of the ball, from which we, on the contrary, should carefully exclude it. The most dangerous complications would ensue from such a practice. If the ball were lodged in the groin or axilla, it would be equally hazardous to attempt immediate extraction, on account of the vessels and nerves which might be wounded by this operation. Balls are, moreover, foreign bodies, the presence of which the tissues bear very well. Larrey gives the case of an old soldier upon whom a ball was found incarcerated in the root of the lung; it had remained in that situation for thirteen years, and had had no prejudicial effect on the man's health. I myself extracted a ball, a little time ago, from the ham of a patient: it had been lodged in that region since 1813, and had not given rise to any accidents.

Balls, as you are probably aware, whatever may be the part where they are arrested, get surrounded by a sort of bag or cyst, which separates them from the neighbouring textures, and prevents them from causing the irritation and inflammation which foreign bodies generally give rise to.

ARTIFICIAL COMPRESSION OF ARTERIES.

Hemorrhage is one of the most fearful complications which accompany gunshot wounds. If the hemorrhage is immediate, the means of stopping it are so well known that I need not dwell upon them. But, hemorrhage is mostly secondary; that is to say, it occurs only when the clot which had plugged up the vessels falls off. Now this secondary hemorrhage is very dangerous in most cases, and often kills the patient in a few minutes; but we shall dread this complication still more when we recollect that a sudden and fatal gush of blood may take place when we least think of it, and without any premonitory symptom. This fact has naturally led surgeons to inquire whether it would not be advisable, in those cases where we suspect that a large artery has been wounded, to use a prophylactic compression on the course of the vessel by means of a tourniquet. I do not approve of this method, for if the compression is powerful enough completely to stop the circulation through the vessel, it may give rise to gangrene; and we know that gunshot wounds are, by their very nature, sufficiently exposed to sphacelus, so that it would be hardly justifiable to make the patient run an additional risk. If, on the other hand, the compressive force is not sufficient to obliterate the vessel, it is quite useless, and hurtful besides, on account of the pain which it occasions.

BLOODLETTING.

Abstraction of blood, both locally and generally, has been strongly recommended by a great number of surgeons, especially by those who do not advocate the practice of incisions. Venesection has been employed by some practitioners immediately after the receipt of the injury, and repeated several times over with a view of obviating local inflammation and general reaction. These measures are very advisable within certain limits; but they may be fraught with much danger; nay, they may rapidly bring on a fatal issue if not applied with prudence and modera-

tion; for when the patient arrives at the suppurative stage, if he has been weakened by bleeding he will not be able to bear the drain of suppuration, and in gunshot wounds the suppurative process, along with the elimination of the sloughs, is inevitable; we should, therefore, husband the strength of our patient, and not bleed him too much. You must not, in fact, have recourse to venesection merely because your patient is labouring under a gunshot wound, but you should be guided by the usual indications for the abstraction of blood. Thus it will be advisable to bleed immediately after the wound has been inflicted, when the latter involves parts abundantly provided with cellular tissue, if the patient is plethoric, and above all, if the wound has penetrated a splanchnic cavity. Bleeding may also be used in a later stage if the reaction is too violent, or if the inflammatory fever is too intense. Local bleeding has likewise been extensively used in cases of gunshot wounds, by means of the cupping-glasses or leeches. When cupping was resorted to it was employed to answer two ends. The glasses were applied on the wound itself, the margin of the latter having previously been slightly scarified. This was intended to pump up and draw out the poison, just as it is now done with wounds really and truly poisonous, or with those resulting from the bites of snakes. This mode of applying cupping-glasses is now quite abandoned, as the idea that gunshot wounds are venomous is entirely given up. This practice, is, however, not bad in itself, since there is really, as I have shown, a sort of poison generated in most gunshot injuries. As for myself, I do not use cupping at all; I prefer injections, which are much better calculated to cleanse the wounds, by washing away all those putrid substances which might prove noxious to the economy. The other end which was held in view when cupping-glasses were applied in the ordinary manner, was to control the pretty intense inflammation which sometimes springs up around the wound; but the scarificator as well as the exhausted glasses are too painful in such cases, and they may advantageously be replaced by leeches. But you must notice that the latter are not advisable except the inflammation be considerable; and there is no doubt that Dupuytren was quite right when he condemned in strong terms the abuse to which the application of leeches was carried. Lisfranc used to apply them five or six times consecutively around gunshot wounds, not because there was any particular indication for such a course, but from the principle, and *à priori*, in order, as he said, to combat the likelihood of distension in the part, and to render incisions unnecessary. To convince yourselves that this was bad practice, you should remember that distension and strangulation in the track of a gunshot wound are very rare; not one of the wounded we have in the house offered us any example of such symptoms, and those upon whom I performed amputation were equally exempt from it. I prescribed leeches for one of these patients only, not because there was distension, but on account of the inflammation which sprang up around the wound. We must, in fact, beware of carrying the abstraction of blood, by means of leeches, too far; they depress the organism as well as general bleeding, and when the patient, thus weakened, reaches the suppurative period, we find the pus unhealthy, sanious, and scanty; colliquative diarrhœa sets in, and soon carries him off. To sum up, then, it may be said, that no absolute or general rule can be framed for the treatment of gunshot wounds. We should use incisions when the parts are actually over-distended and strangulated, which complications happen very rarely; we should have recourse to local or general abstraction of blood when bleeding is clearly indicated, and we must finally do nothing *à priori*, or to satisfy any ingeniously contrived theories.

INTERNAL REMEDIES.

There are certain indications which it is of importance carefully to fulfil. Pain should be allayed by *opiates*, the blood kept in a diluted state by cooling drinks, and its plasticity lessened by bloodletting and saline purgatives. These precautions will be very appropriate for the first and second periods, and nothing more in the way of general treatment should be done during these stages, for if we were then to venture upon tonics we would be sure to bring on a state of excitement anything but beneficial. In the third period, however, we should see that the patient be supported; a slightly tonic, but unstimulating diet will answer that purpose, but it should be prudently regulated, and its effects watched. Such is, in

a few words, the best treatment you can use as addressed to the system generally in cases of gunshot wounds.

POSITION.

This question is not less important in gunshot injuries than it is in other wounds. The rule is, in fact, to prevent stagnation of purulent matter, and favour its discharge towards the most depending parts. Purulent absorption is a source of infection from which we should sedulously seek to shield our patients. If, for instance, the wound be on the superior part of the head, we have three circumstances to attend to in order to remedy the disadvantage resulting from the wound not being in a depending part of the same. We must either so place the patient that the direction of the wound may be altered, or apply dressings which will effect a compression upon the latter from below upwards, so that the pus may not remain stagnant at the bottom of it and there accumulate; or we must finally make a counter-opening. You have seen me use this latter expedient a short time ago; the patient had been wounded by a sabre cut on the left parietal bone; now, as the opening of the wound was towards the vertex, the purulent matter could not discharge easily; I remedied this by making a counter-opening on a level with the fundus of the wound. The danger of penetrating wounds of the chest, independently of the lesion inflicted upon the viscera, lies principally in the accumulation of the fluids towards the lower part of the wound; these remain stagnant, give rise to burrowing and sinuses, and no position which we may cause our patient to assume will effectually cause their discharge.

These dangers exist in a lesser degree with penetrating wounds of the abdomen, because a peculiar kind of decubitus, and a well-regulated system of compression, will be sufficient to cause the effused liquid and the purulent matter to be discharged by the opening of the wound. But you should pay particular attention to the manner of placing wounded limbs. No general rule can here be given, for the position of the injured member must be regulated by the different periods the wound has to go through. Let us first suppose that you have to deal with some phlegmonous inflammation which has not yet reached suppuration; the limb, in such a case, is usually kept elevated, and this position is the most likely to bring on resolution. But if purulent matter have already formed, we must adopt another course; the elevated position would then be dangerous, for sinuses towards the upper part of the limb would certainly form; and to avoid this the dependent posture is generally advised. The very same principles hold with gunshot wounds. The extremity of the wounded limb is to be raised within the first and second periods, but as soon as suppuration has taken place the limb should at once be made to assume a dependent position, so as to prevent the purulent matter from running towards the upper part of the same. The raised position of the limb is, in gunshot wounds, of very trifling utility, whereas it may, on the other hand, be fraught with very serious inconvenience. The advantages of it are, in fact, to diminish inflammation, but you know that the latter is not the event we apprehend most in these kinds of wounds, so that we should at once inquire what may be the dangers of this raised position of the limb? These are no less than burrowing of matter and subsequent purulent infiltration; and this is just what is most to be dreaded in gunshot wounds. Of this fact you have clinical proofs before you; you need but observe some of the cases which have lately been brought in. Notice, for instance, what takes place in wounds of the knee: this joint, when the dorsal decubitus is assumed, is almost always on a higher plane than the hip. What is the result? Stagnation of fluids within the wound. This circumstance contributes certainly very much in rendering wounds of the knee-joint so perilous. Do not believe, gentlemen, that the danger of keeping limbs in a raised position is confined to the untoward results which I have been describing; it may give rise to other very unpleasant consequences. Suppose, for instance, that the surgeon, in order to meet certain ends he has in view, keeps both legs raised; what will be the consequence? Why the circulation will be greatly modified in these limbs; the amount of blood sent to them will be lessened, but in other regions it will, of course, be much increased; and hence we may have congestion of the liver, kidneys, lungs, brain, &c. We should, therefore, prescribe the raised position of the limb with great caution, and be careful to remember

that this elevation of the same may, in gunshot wounds, be more prejudicial than advantageous.

TOPICAL APPLICATIONS AND METHODS OF DRESSING.

The annals of surgery present many different modes of dressing gunshot wounds. There was a time, indeed, when they used to be burned with gunpowder, in order to destroy all the external layers which were then thought poisoned. Some burned the wounds with a red-hot iron, and others applied boiling oil to them. Ambrose Paré, who lived at a period when civil war was raging, paid much attention to these kinds of wounds. His practice was to make immediate applications of hot oil. He tells us that the quantity of oil was one day insufficient to dress all the wounded, and he was obliged to use ointment for some of them. When he returned home he was very uneasy about these poor fellows, and he very forcibly describes the anguish he experienced the whole night, and the hurry and apprehension with which he hastened to see them next day. But how greatly astonished he was to find them doing tolerably well! He forthwith gave up the boiling oil, and it is rather humbling to confess that mere chance caused such a barbarous practice to be given up. From that time, ointments, plugging, tents, and setons, were successively used; and I beg you to notice that the last of these contrivances is not quite so unreasonable as has been represented. This can easily be shown. Gunshot wounds are generally winding and irregular, and this is owing to two circumstances,—the ball may have been made to deviate, on account of the different density of the tissues through which it has run; or the organic layers which have been displaced by the passage of the ball have resumed their position to an extent varying with their respective elasticity. It is evident that the windings of the wound will be a hinderance to the free escape of the pus; whilst a seton, which completely and regularly runs through this wound, will effectually favour the discharge, and prevent stagnation. The use of the seton has, however, been discontinued, in spite of the palpable advantages to be derived from it, because it is very apt, by acting as a foreign body, to give rise to very dangerous inflammation.

Cold applications.—Cold water or ice has long been in repute as a topic in the treatment of all wounds, and especially in gunshot injuries. We find, in a thesis of M. Madelin, published in 1825, proofs that this practice is very ancient. The use of cold water as an application to gunshot wounds has been especially recommended by Schmuck, a Prussian surgeon of the last century, as well as by Lombard, a French practitioner, who served in the wars of the Republic. This feature in the treatment of gunshot injuries had been quite given up, when it was revived in France, about twenty years ago, by M. Josse, a surgeon of Amiens, who advocated it very strenuously. It is alleged that cold applications prevent inflammation and pain; that they in some degree do away with suppuration, and hasten cicatrization. They have been used in different ways. Some use continuous irrigation; others, for the sake of convenience, merely apply sponges or lint, dipped in cold water, as recommended by M. Mayor, of Lausanne, seeing that these applications be kept moist. Others, again, use bladders, filled either with cold water or ice. If it be conceded that the steady application of cold has real advantages, preference should be given to continuous irrigation, which of course will pretty constantly stand at the same temperature, and not present so many thermometric variations as when ice or lint, dipped in cold water, is used. But this continuous irrigation, it should be noticed, is rather difficult of accomplishment, and not easily kept up at an identical temperature. I have never been an advocate of continuous cold; still I have used it, and have carefully observed the cases where it was applied by others, and I will lay before you the conclusions to which I have come, as well as the reasons upon which I found them.

A continuous stream of cold water kept up steadily on a phlegmonous inflammation which has not suppurated as yet, may certainly contribute to resolution; but it cannot be denied that compression, leeches, cupping, mercurial frictions, or blisters, applied for a short time, may likewise act very beneficially on this same inflammation; all of which means are far easier of application than continuous cold of a non-varying temperature. If the wound we have to treat is an incised one, the only thing we have to do is to bring both lips in contact, and see that they

remain so, in order to favour union by first intention. If, in such a case, either cold water or ice were used, they would be very likely to cause mortification of the textures, and this result I have seen several times in wounds connected with large flaps, which latter, far from uniting, were invariably attacked by gangrene; so that I may safely assert that refrigerating applications on incised wounds are, to say the least of them, useless, and often very hurtful. In contused wounds we have two circumstances to take into consideration. First, we are to make out which are the mortified parts (which of course will be cut off), and, secondly, which textures are likely to be saved. In order that the sloughs may be removed, there must of necessity spring up an eliminating inflammation, and the only thing we have to do is to moderate it. But it is alleged that cold water *does* diminish that inflammation. There is no doubt that redness and swelling give way under the influence of cold; but the inflammation itself, lying below the surface, is rather concealed than arrested by this practice. Suppuration very often assumes an unsatisfactory character under the agency of cold water, and is likely to burrow under the fasciæ, and to get extensively diffused. But, moreover, who would venture to say that the application of cold does no further harm than the casualties which I have stated? Is it not a well-known fact that most phlegmasiæ acknowledge cold, and especially cold and damp, as their primary cause? May it not fairly be asked whether there is not some danger in causing a patient to hold his limb in cold water for several consecutive days and nights? Does he not thereby run the risk of being attacked by pneumonia, bronchitis, pleuritis, or rheumatism, which affections are all much more dangerous than the wound we are trying to heal? I leave you to consider these questions; as for myself, I have to state that the reasons I have laid before you have appeared to warrant the rejection of refrigerating applications.

SECONDARY HÆMORRHAGE.

Secondary hæmorrhage, in gunshot wounds, differs widely from the same accident caused by the rupture of an aneurism or by an ordinary wound; for in gunshot injuries the gush of blood results from the falling off of the clot which had been plugging up the wounded artery. This clot, by interrupting the course of the blood in the injured vessel, naturally produces, on the re-establishment of the circulation, great dilatation of the collateral branches; and it is evident that hæmorrhage, by means of these same branches, would take place almost immediately, if you were to be satisfied with tying the artery between the heart and the wound. This return of the hæmorrhage is principally to be dreaded in wounds of the head, even when a large arterial trunk has been secured, on account of the numerous anastomoses of the carotids, both with each other and the vertebral arteries. The patient who lay at No. 26 has afforded us a very sad example of this fact: he had had, as you are aware, his lower jaw fractured by a ball, which had issued on the upper part of the neck. Very alarming secondary hæmorrhage took place after the receipt of the injury; the blood gushed both from the mouth and the two apertures of the wound, and, in spite of all our efforts, we did not succeed in arresting it. It was then I made up my mind to tie the corresponding carotid: what was the result? On the very evening of this operation hæmorrhage occurred on two different times, and with as much violence as before the carotid was secured. When I saw the patient next morning, he was nearly exhausted, but the hæmorrhage had stopped; a few hours afterwards, however, it returned again, and this time it proved fatal. Thus you see, that the tying of the wounded artery may prove powerless in secondary hæmorrhage resulting from a gunshot wound. What then, are we to do in such unfortunate cases? Shall we apply powerful compression above and below the wound? This may decidedly do much good; and if it were impracticable, there would be nothing left but tying both ends of the injured artery within the wound. But even this last resource, however efficacious it may appear at first sight, is far from placing the patient's life entirely out of danger; for the coats of the artery, in the very spot where the ligature is to be applied, are not in a favourable state, on account of the injury inflicted by the wound; and the morbid alterations which have taken place in the textures of the vessel might therefore give rise to another rupture, and to renewed hæmorrhage. So that we must conclude, from the consideration of these facts, that secondary hæmorrhage in gunshot wounds is often beyond the reach of our art.

PURULENT INFECTION.

All severe wounds, whatever their nature may be, give rise to a general reaction. This may be divided into two distinct kinds. 1st. The inflammatory, or febrile reaction, which is characterized by phenomena so well known, that I need not describe them here. 2d. A reaction of a purulent or infectious nature. To this latter I beg you will direct your attention for a few moments. Of all wounds, those inflicted by balls are the most likely to expose the patient to absorption of purulent matter, and to the subsequent infection of the system. The surfaces of ordinary wounds are but rarely mortified; it is often an easy matter to bring the margins into contact and make them unite by first intention; whilst suppuration may be very limited, or sometimes not take place at all. In gunshot wounds, on the contrary, immediate union is impossible; the tissues over the whole periphery of the wound are mortified, must turn into slough, and be thrown off by suppuration; it is, under such circumstances, very likely that the economy will, to a certain extent, suffer from a kind of poisoning or infection, by the agency of the undetached sloughs, the elimination of which does not take place before the tenth or fifteenth day. Gunshot wounds are, moreover, mostly unequal and anfractuons, so that the pus accumulates in them, forms sinuses, and is discharged with great difficulty. The stagnation of the pus, and the prolonged contact of eschars and putrid purulent matter, is a double cause of infection, which sufficiently explains the frequency of purulent contamination consecutive to gunshot wounds. This poisoning or infection, as resulting from the passage into the circulation of putrid substances, is always of a very serious character; it is, in fact, the most fearful among the secondary complications of gunshot wounds; it is likewise one of the most frequent; and we have, unfortunately, several cases of it in the house. Several categories or forms of infection might be established, by taking into consideration either of the exciting causes of the same, or the lesions which it gives rise to. Thus may purulent infection result from a wound or ulcer which communicates with the external air, or from an abscess which has no communication externally, as happens with congestive abscesses; or it may arise from extensive and diffuse suppuration, which spreads among the muscles, and gets infiltrated through the whole extent of a limb. The lesions, on the other hand, which follow purulent infection, may affect the viscera and the splanchnic cavities; in such cases, numerous abscesses in the liver, spleen, or lungs are discovered after death: this form of infection is always fatal. Or the abscesses may not form in the viscera and cavities, but fix exclusively upon the limbs and articulations: this form is less dangerous than the preceding, and patients may recover, provided the abscesses be not too numerous or too extensive, and they do not occupy the very thickness of the limbs, as sometimes happens with the thigh. Or, finally, the purulent collections may occupy the splanchnic cavities, the viscera contained in them, the articulations, and the different tissues which compose the limb.

Purulent infection, resulting from gunshot wounds, generally comes on from the tenth to the thirtieth day. It is ushered in by rigours which, after a while, become more and more frequent, and is characterised by a frequent, small, and thready pulse, a feeling of excessive prostration, and by complete adynamia; so that the fever resulting from this infection might very well be called putrid or adynamic. The skin assumes a yellow hue, and is moistened by a cold and viscous perspiration; the patient exhibits an almost continual tremor, gets comatose, and dies. The wound, from the very beginning of this series of phenomena, looks pale, the suppuration diminishes, and the purulent matter gets gradually thin and serous. In those cases where there is a likelihood of recovery, a reaction takes place, the pulse resumes some vigour, and becomes less tremulous. The only thing to be done in these latter cases is to open successively all the abscesses which may have formed in the parietes of the trunk, or in the textures of the limbs.

HOSPITAL GANGRENE.

Hospital gangrene is a singular complication, which has not yet received a befitting name; it is, in fact, a sort of humid gangrene. The aspect of gunshot wounds, attacked by it, undergoes an immediate alteration; they, namely, turn of an ashy

gray, just as if a layer of foreign substance had been spread over their surface. The pus at the same time loses its usual characters, become transformed into a sanious and very scanty fluid, and the phenomena progress so rapidly, that we rarely have an opportunity of witnessing the very outset of them. Hospital gangrene is sometimes epidemic and sometimes sporadic. The French surgeons who have studied the disease most carefully are Poutot and Dussossois. Blackadder, an English surgeon, has recorded an epidemic of it which he saw in Spain. He thinks that it begins by a grayish, semi-transparent vesicle, which breaks, communicates with others, and thus forms a layer which invades the whole wound. A wound attacked by hospital gangrene, in whatever way the latter may have begun, assumes immediately a grayish colour; a pulaceous matter of the same hue, and of very offensive smell, oozes from it; the stump or the margins of the wound get puffed up and feel pulpy and boggy, and become very painful and throbbing. The reaction is sometimes very violent, the pulse is frequent, irregular, almost always very feeble; and the patient falls into a profound state of prostration and adynamia. All these phenomena occur in the space of twenty-four hours. The disease then progresses rapidly, and runs through all its stages in a week or ten days. The putrid gangrene spreads both in surface and depth, soon reaches the bones, which it destroys and necroses, and proves rapidly fatal. In very favourable cases it extends but superficially, and thus spreads gradually along the textures without gaining in depth; it transforms the integuments into putrid sloughs, which soon get limited by a red circle, from which the eliminating process begins. Hospital gangrene is mostly epidemic, but it is sometimes sporadic. The causes of this dreadful visitation are not well known; still it has been attributed to crowding, want of cleanliness, to wretched habitations, to the absence of hygienic precautions and medical care; but none of these causes can explain its appearance upon our two patients. The first case is a young woman, of very cleanly habits, who has had her breast amputated; and the wound was nearly cicatrized when the hospital gangrene made its appearance. Now the ward where this patient is lying is large and well ventilated; two wounded persons only have been admitted into it, and it contains several vacant beds, so that crowding is out of the question. The second case is a man. This patient had had his leg amputated just above the ankle about a week ago; the amputation had been necessitated by a comminative fracture of the tarsus, that had been struck by a ball, which had run through the foot. This man was, as well as the woman I mentioned just now, in a very satisfactory state in every possible respect; so that it must be confessed that these two cases present us with additional proof of the obscurity which still reigns over the causes of hospital gangrene.

Most surgeons admit that this sad complication is contagious: among them I may name Poutot, Dussossois, and Blackadder; and as for myself, I fully agree with them in this particular. But admitting, however, that hospital gangrene is contagious, like syphilis or small-pox, it might fairly be asked, what was the cause of it with the first man who was ever affected by the disease? This is a question of general etiology, which concerns all contagious diseases, and which we are not able to solve. Still I fully believe that hospital gangrene is contagious, and that it is communicated by actual contact. It has been known to arise in a wounded individual the very next day after his wound had been touched with a sponge or part of the dressings which had been used for another patient affected with the disease. Those surgeons who maintain that hospital gangrene is not contagious but epidemic, ground their opinion upon the fact of its breaking out upon several wounded patients in the same hospital, and at the same time; but there is an experiment which clearly shows the contagious nature of the disease. Place upon a wound, in a fair way of cicatrization, a little of the matter secreted by another wound affected with hospital gangrene, you will see the aspect of the first wound change in a few hours, and soon exhibit all the phenomena of this dreadful complication. Now, if we admit the doctrine of contagion, we are met by another and a very interesting question. What is, namely, this contagious principle? Of what nature is it? This has been answered in a variety of ways. Some have thought that it consists of an acrid principle in a state of fermentation. Others maintain that the contagious principle belongs to the organic world. This latter theory was propounded in 1814. But what is this organic principle? As

for myself, I am rather inclined to think that the contagious principle of hospital gangrene is composed of certain microscopic animalculi. We are surrounded by innumerable quantities of little beings, of which we can become cognizant but by the aid of the microscope; myriads of them swarm in every part of the creation! Are we, then, to be surprised that they should settle upon any part of our frame with morbid tendencies? The physical as well as the moral world offers a picture of a continued struggle between good and evil, between the great and the small. Only look at the cancerous molecule which is deposited in the very core of our organs; it is at first a mere atom, hardly cognizable to the senses, but this atom gradually enlarges, destroys all tissues it comes in contact with, and substitutes itself for the parts which it has annihilated. Only look at the worms which spring up in a mysterious manner on the surface of a corpse, and which multiply *ad infinitum*, by the destruction of the inanimate fabric! Why should matters proceed otherwise with hospital gangrene? Why should we not believe that the pulsatious and putrid matter, which is thickly deposited on the surface of wounds, without any preliminary or concomitant inflammation, is formed by an agglomeration of microscopic animalcules? There is an unknown agent at work here which has yet to be discovered; but whatever be its nature—whether it belong to the vegetable or animal kingdom—it is decidedly a manifestation of the great law by which we everywhere see the elementary principles contending with each other, and life struggling with death.

The prognosis of hospital gangrene is very unfavourable, for it disorganizes everything it touches, and the disorganization which it produces is so rapid, that it would be mortal if a well-directed treatment were not opposed to its destructive inroads. It should be attacked by topical applications, for it is at first a strictly local affection. Several among these have been highly extolled. Thus have charcoal and Peruvian bark, finely powdered together, as well as the vegetable and mineral acids, been much recommended. In certain cases, however, the disease goes on spreading with great rapidity, and destroys the patient, in spite of the most energetic treatment. The therapeutical means to which I give the preference are the vegetable acids, which I think more efficacious than the powder of bark and charcoal, and more to be depended on than even alum. Among these acids I generally use the citric, the doses being regulated by the greater or lesser hazard of the case. Thus I prescribed for the patient lying at No. 49, compresses dipped in the following lotion—citric acid, two drachms and a half; water, one ounce. This application has had the most beneficial effect; the whole of the morbidly altered parts are detached and thrown off, and the wound has assumed a reddish and vitalized aspect. The woman, whom I mentioned as being likewise attacked with hospital gangrene, is progressing just as satisfactorily. If the means which were here employed had had no effect, I would have cauterized the whole of the wound with the acid nitrate of mercury, as Dupuytren used to do; and I do not hesitate in using the actual cautery, when I find the grayish, pulsatious layer to be very thick. These different local applications should be aided by a general tonic treatment. Amputation is to be resorted to only in those cases where all the preceding means have proved unavailing in arresting the progress of the disease.

PHLEGMONOUS INFLAMMATION AND SINUSES.

As gunshot injuries are generally deeper than other wounds, so are they more frequently followed by inflammation reaching to a great depth, and by burrowing of matter and sinuses. The inflammation which is consecutive to gunshot wounds is of two kinds: it may, first, be limited to the track of the ball, and it is then not only devoid of danger, but quite necessary; and it may, in the second place, extend to the neighbouring parts. If the wound reach no deeper than the aponeuroses, the phlegmonous inflammation resulting from it will not extend any further; it will then be strictly superficial, and spread more or less, according as the textures where it is situated have more or less laxity. But if the wound run right through a limb, the phlegmonous inflammation will involve the intermuscular septa, will extend between the muscles, run up to their very origin, lay the bones bare, and bring caries or necrosis upon them. If this inflammation occupy the whole extent and depth of a limb, it will generally prove fatal. These deep and

diffuse inflammations are among the most frequent and most dangerous complications of gunshot wounds. They put the life of the patient in great peril—first, by the general reaction which they bring on, and which is sometimes sufficient to carry off the wounded individual; second, by the suppuration which they cause, the great amount of which rapidly exhausts the organism; third, by the propagation of the inflammation, which may extend to the veins and lymphatics, and bring on purulent absorption and deposits; fourth, by producing necroses of bones, and exposing the patients to their excision, or to amputation; fifth, by rendering (in cases of recovery) the least movements difficult and painful, in destroying the laxity and free play of muscular aponeuroses and synovial bursæ, by glueing all these parts together.

Such are the principal secondary complications of gunshot wounds. They conclude the general observations which I had to offer on the gravity and treatment of gunshot wounds, which the events that have just taken place have allowed you to study and to follow in all the varieties and stages which they can present. *Vide Report on Surgery.*

ART. 47.—*The Treatment of Erysipelas with Nitrate of Silver Ointment.*—M. Jobert states that he has obtained better results from the application of nitrate of silver with axungia, than from any other application in the treatment of erysipelas. Numerous cases are mentioned of the severer form of erysipelas having been treated in this manner in the Hôpital St. Louis, where the disease is very prevalent; and with invariable success. Four degrees of strength are employed, varying from two drachms of nitrate of silver to an ounce of axungia, to equal parts of the ointment and caustic. The ointment is applied twice a day, and after each application a thin layer is left on the affected surface, taking care that the entire inflamed surface and a short way beyond it are covered with it.

Gazette des Hôpitaux, May 11, 1848.

ART. 48.—*On the Prevention and Treatment of Bed-sores.*
By M. C. BERNARD, M. B.

(Condensed from *The Dublin Medical Press*, May 10, 1848.)

1. *Prevention of bed-sores.*—It is well known to every practitioner that, although the most timely precaution may be adopted, and the most skilful means directed towards their prevention, yet they will, in opposition to every exertion, make their appearance. We may succeed often by stimulating applications and other auxiliaries to interrupt their progress; yet so low are the powers of life in some cases, and so great the loss of nervous energy, that the parts subjected to pressure quickly fall into a state of sphacelus. To such an extent was this tendency manifested in one case which I had lately under my care, that not only the integuments and subjacent cellular tissue over the sacrum, spinal processes, and hips, sloughed, but even those parts of the body which come occasionally in contact (as the knees, &c.) were affected in like manner. To avert so great a calamity we must call to our assistance every available remedy. As a matter of the first importance we should be satisfied that the nurse in attendance on our patient has sufficient experience; as without proper attention on her part, and implicit obedience to the physician's directions, his best efforts will be frustrated. In protracted fevers the physician should not even depend on the nurse's watchfulness; he should make it a rule to examine daily those parts subjected to pressure.

When the first blush of unhealthy inflammation makes its appearance (which is indicated by a livid colour in the integuments) we should take care that all pressure from the parts be immediately removed. This can be done either by the patient's position being changed, or by the aid of bolsters or air-cushions; and if the case is one likely to be protracted, the hydrostatic bed of Arnott should be at once procured. The simple plan recommended by M. Purefoi (as lately described in the *Gazette Médicale*) is well worthy of the attention of the profession. He uses a cow's bladder softened in warm water; this being oiled, and partly inflated, is placed under the part suffering from continued pressure. The effect of this support (in a case of fractured leg) exceeded his expectations. He says, "from the moment the patient experienced the change, he cried out that he was

in heaven, and to the end of the cure of the fracture he felt no more pain, nor was the bladder changed but once during the month this was effecting. Another patient, who had gangrene from infiltration of urine, had to rest almost entirely on the sacrum for two months, and was saved any pain or ulcerations of the part by having placed under it a bladder, prepared as above, and wrapped in a towel." What renders this contrivance valuable is its simplicity and cheapness; it forms a very manageable substitute for the hydrostatic bed of Arnott, and will, I am convinced, add more to the comfort of our patients than a more costly article.

In addition to these preventives, others to stimulate the surface and excite the dormant capillaries to more healthy action, should be diligently used. The lotion recommended by Sir B. Brodie is admirable for this purpose. It consists of two grains of bichloride of mercury to an ounce of proof spirit. These two contrivances, if used at the same time, will be found invaluable in the prevention of bed-sores. The lotion of Sir B. Brodie, by its stimulating properties, will serve to thicken the cuticle and render it more efficient to resist injury; whilst the inflated bladder of M. Puresoi, by its softness and elasticity, will preserve an uniform pressure on the surrounding parts, and allow the free circulation of blood through the capillaries at the surface of the body.

2. *The treatment of bed-sores.*—The constitutional treatment is of the first importance in these cases; indeed any local application to the sores will prove of little use, unless we support the strength and give tone to the nervous system. In order to understand what constitutional treatment will best suit our patient, let us inquire into the general symptoms of such cases. We find them almost invariably in a state of exhaustion and extreme emaciation, the powers of life having sunk almost to the lowest ebb; the pulse quick and weak; the tongue furred or morbidly clean; the skin rough and dry; the nights are passed in a sleepless state from the pain and irritation of the sores; every motion of the patient is accompanied by the most excruciating torture; in fact, it is difficult to depict the misery which an individual suffers who is subjected to so great a misfortune. During this period the appetite is often voracious, but, strange to say, the food digested seems to impart little strength to the attenuated body.

In our treatment, therefore, we must not forget the irritative fever which exists, and the loss of nervous energy which attends this affection, to allay the one and restore the other. I look upon the exhibition of powerful sedatives as a *sine qua non* in the treatment. Dr. Graves, in his observations on this subject (published in the thirteenth lecture of his System of Clinical Medicine), recommends anodynes at bedtime. The pain and nervous irritation are, however, so great in many cases, more particularly during the second stage of these sores, that the greatest benefit will be derived from their exhibition at intervals during the day as well as at night. For this purpose I have been in the habit of prescribing, with the greatest benefit, one or two grains of the muriate or acetate of morphia, combined with Murray's fluid camphor at bedtime, and smaller doses during the day, whenever the pain would urgently demand its exhibition. Sulphate of quinine, or some other preparation of bark, ought also to be administered. When constipation exists, enemata with lukewarm water will prove to be the best aperient, as our object is to husband as much as possible the strength of the individual. A light and nutritious diet is best suited in such cases. Brandy or wine should also be given at intervals during the day, and in quantity according to the necessity of the case.

When the sores have made some progress towards healing, change of air may be ordered; gentle exercise in the open air, if at all practicable, will be also attended with the happiest results. An hydrostatic chair might easily be constructed of the same shape and construction as the bath-chairs in ordinary use. It is only necessary that the seat and back of the chair may be rendered waterproof. This can be accomplished by lining it with Mackintosh cloth, and filling the cavity with water after the manner of the hydrostatic bed of Arnott: whilst daily exercise in this chair will tend greatly to strengthen the constitution, and add to our patient's comfort and enjoyment, it cannot in any way protract the healing of the sores.

Local treatment.—The remedies should be varied according to the different stages of the sores. For practical convenience, we may divide the progress of

these ulcers towards reparation into three stages. In the first, we have a deep slough, analogous in some respects to the eschar artificially produced by caustic potash; this slough (according to the powers of the constitution) will take two or three weeks to be cast off. Whilst this progress is taking place, we should rather assist than interfere with the salutary efforts of nature. Stimulating applications will now be found most useful. A carrot-poultice should be applied every morning and evening. A solution of chloride of soda may also be sprinkled on the poultice to decompose offensive effluvia. The patient should be enjoined to lie on the face to take off pressure from the sores; if this is not practicable, bolsters, air-cushions, or bladders, inflated and oiled, must be used with a similar intent.

When the slough falls out, a deep unhealthy-looking ulcer is presented to our notice, forming the second stage of these sores. This ulcer is generally round or oval. The integuments at the circumference are undermined, so that you can readily pass a spatula beneath them, showing that the subjacent cellular tissue had lost its vitality even to a greater extent than the cuticle. The margin of the ulcer is consequently found to overlap its base. The base presents a flabby, uneven surface without granulations, and interspersed with shreds of adherent slough. From this surface a thin sero-sanguineous or ichorous discharge is secreted, having a most fetid odour. In order to promote healthy granulation, and stimulate the parts to cast off the remaining shreds of slough, warm dressings, consisting either of equal parts of gum elemi and spirits of turpentine, or of castor oil and Peruvian balsam, may be applied, dipped in lint, to the bottom of the ulcer, and a linseed-meal poultice, spongio-piline, or a carrot-poultice, placed over them. After a few days the ulcer will assume a more florid appearance, and show a disposition to form granulations. It will now be necessary to make a change in the dressings. At this particular stage we may hear of many vaunted remedies and old women's cures spoken of as specifics, consisting of ointments that take twenty days to make, lotions, and poultices innumerable. Suffice it to say, that the simple means I have used at this stage have answered all my expectations, and have added more to my patient's comfort than all the greasy applications which are recommended for the same purpose. It consists in applying every morning, with a camel's hair brush, a solution of nitrate of silver (ten grains to an ounce of distilled water) to the flabby granulations, then covering the surface of the ulcer, and filling it up with fine carded cotton. A piece of oiled silk, large enough to cover both hips and sacrum, should then be placed over the dressings. The oil-silk thus applied serves a double purpose: it will, by preventing the evaporation of the discharge, keep the cotton soft, and permit its easy removal at each dressing; it will also add to the cleanliness and comfort of our patient, by preventing the bedclothes being soiled. Under this simple treatment, the surface of the ulcer soon begins to assume a more healthy appearance, the granulations at the margin become amalgamated with those at the base, until the cavity is filled up by luxuriant granulations.

We have now the third stage of these bed-sores to treat. As in the second stage our object was to stimulate the surface to healthy action, in this we have to control inordinate action and repress luxuriant granulations. A concentrated solution of sulphate of copper (applied every morning) will be found most useful for this purpose. The carded cotton and oil-silk, as above recommended, may be also continued until the ulcer is perfectly healed.

ART. 49.—*Collodion, a newly-discovered Adhesive Fluid, a Substitute for Sutures and Adhesive Straps.*

(From *The American Journal of the Medical Sciences*, April, 1848.)

We have been shown by a young medical student, Mr. George P. Maynard, of Boston, a liquid adhesive substance, which he has introduced as a substitute for the common adhesive plaster, and over which it seems to us to possess many advantages, and to be applicable to many cases in which the latter is not. It is formed by treating cotton with nitric and sulphuric acid, then washing the substance thoroughly, and afterwards dissolving it in pure sulphuric ether.

In a letter to Dr. John D. Fisher, read before the Boston Society, Mr. Maynard states that he has used the adhesive liquid, and seen it used by his preceptor, Dr.

Whitney, in more than one hundred cases of surgery, some of them serious, and in all successfully.

The mode in which it was used in these cases, varied according to the nature, size, and situation of the wound. In slight cuts, a moderately thick coating of the solution laid over the incised parts was, on becoming dry, sufficient to keep the lips of the wound in position till union took place; but in most instances it was applied in conjunction with straps of cotton and sheep-skin, and with raw cotton, forming with them strong, unyielding, adhesive straps, bandages, and encasements; and, after many experiments, I am convinced that this is the best and most effectual way in which it can be employed as an adhesive agent in surgery. The solution dries rapidly, and in a few seconds, by the evaporation of the ether it contains, it becomes solid and impermeable to water; and a strap moistened with it and glued to any part of the cutaneous surfaces, adheres to it with a tenacity truly surprising.

In proof of this, I will mention the following facts: a strap of sheep-skin, glued to the hand by a thin layer of the solution, nine lines long and one and a half wide, sustained a weight of two pounds. A second strap attached to the hand by a layer of the substance, nine lines in length and three in width, sustained a weight of three pounds. A third strap, fixed to the hand by a layer of the liquid, twelve lines square, resisted the force of ten pounds without giving way; and a fourth strap of the leather, glued to the hand by a stratum of the solution, measuring one and three-fourths of an inch in length, and one in width, was not separated from its attachment by the gravity of twenty pounds. These statements may appear incredible; but they are founded on exact and carefully performed experiments, and are true. No other gum possesses such adhesive power as these experiments show this cotton gum to be endowed with. No adhesive plaster hitherto used in surgery is to be compared with it in this respect. It, therefore, can be made use of in cases in which the common adhesive plaster would be useless.

The wonderful adhesive properties which my experiments proved it to possess suggested the thought that it might answer the purpose of sutures in surgery. And an opportunity soon occurred to enable me to decide the fact that it would. I allude to the operation performed by Dr. Whitney, for the removal of a wen from the head. Fearing that an erysipelatous inflammation might arise in the scalp, in case he united the divided parts by sutures, Dr. Whitney shaved the hair from the raised scalp, and, by means of the cotton solution, he glued some short and narrow straps of sheep-skin on each flap, a short distance from their edge. These straps were then drawn towards each other, until the edges of the wound were brought into close and exact union, and the free ends of the straps were fastened together by sutures. In this case the needle and thread were passed through *inanimate leather*, instead of *living flesh*, causing no pain to the patient, and no interruption to the process of healing. The wound healed favourably, and without the usual accidents necessarily occasioned by the presence of sutures in, and the operation for their removal from, the parts. The happy result of this case convinced me that a means was now discovered which would enable the surgeon to do away with sutures, pins, and needles, in most of the cases in which these are at present considered indispensable.

Although unauthorized to do so, I must take the liberty, in this place, to mention the interesting fact that Dr. Comstock, of Wrentham, has recently employed this liquid as a dressing, in a case of extensive laceration of the perinæum, with a success that he thinks never attended any other mode of management. The dressings remained firmly attached and solid during the process of healing, notwithstanding they were for a time almost constantly covered by urine and mucus, and subject to being displaced by the movements of the patient.

[Mr. Bullock, of Conduit street, manufactured some of this article at our suggestion. It is, at first, an opaline adhesive fluid, smelling strongly of ether, and becoming perfectly transparent by the deposit of a tenacious shreddy material on remaining at rest. The supernatant fluid retains the adhesive property; by spreading it over the skin with a camel's hair pencil the ethereal menstruum rapidly evaporates, and a transparent coating is left of greater or less thickness. When dry, it somewhat resembles goldbeaters' skin, but is far more transparent. We have employed it in several cases of simple incised wounds with perfect success.

Since the above extract was sent to press, we have made a novel application of this discovery for the cure of toothache and stopping decayed teeth. A piece of fine cotton, thoroughly soaked in the transparent fluid, and then inserted into the hollow of the tooth, previously cleansed and dried, has been followed by complete relief to the toothache, and has maintained its position for several weeks.—H. A.] Vide *Report on Surgery*, in the present Volume.]

ART. 50.—*New Mode of Resection of the Bones.*

By LE CHEVALIER BERNARDINNO LARGHI.

(From the *Giornale delle Scienze Mediche di Torino*.)

The method proposed by the author consists in removing the osseous portion only, and preserving the periosteum, from which it is to be reproduced. We know the importance of this reproduction, which never takes place in resections in which the bone and the membrane are removed together. This practice, without having been reduced to a method, as the author wishes, has still been once tried with advantage by M. Blandin. This professor, having to remove a portion of the clavicle, carefully preserved the periosteum, and the portion of bone separated was rapidly reproduced. M. Larghi is wrong, then, in accusing surgeons in the mass of never having thought of the reproduction of the bone in their resections. The following is the operation which he recommends:

In the first place, we must injure the periosteum as little as possible, and confine ourselves to dividing it no further than is necessary to allow of the extraction of the osseous portion.

If the portion of bone to be separated is short, make a longitudinal incision parallel to the length of the bone to be divided: this incision should penetrate through the muscles to the osseous portion required to be taken out. The periosteum divided, detach it from the osseous portion, which is easy; for it is already in part done by the gelatinous liquid which nature has secreted for this very purpose; then pass a riband round the bone, with the aid of a flexible needle; then produce traction on the bone by means of this riband. The muscles inserted into the periosteum act on their side in a contrary way; and from this antagonism results the complete separation of the bone from its periosteum. We may facilitate this operation, if necessary, by injections of warm water. The osseous portion once isolated, we effect the resection. If the osseous portion to be extracted is long, the process we have described must be resorted to at each of its extremities. When these are isolated from the periosteum, their resection may be effected, and with a little force the whole of the osseous portion can be easily drawn away. Still it would be possible to extract a long bone by means of two small incisions made at its two extremities, which should penetrate from the skin to the bone, keeping intact not only the portion of periosteum comprised between the two incisions, but also the other parts, without even excepting the skin.

Dr. Larghi has several times applied this method with success in many patients, especially in the resection of a portion of the eighth and of the ninth rib, a great part of the right humerus, the ileum, and the forearm.

Nouvelle Encyclographie des Sciences Médicales, Feb. 1848.

ART. 51.—*On the Necessity of Excision in Cancer of the Lip.*

By CHARLES FLUDER, Esq.

(Condensed from a Letter in the *Medical Gazette*, May 26, 1848.)

The object is to direct attention to a most important fact, already perhaps known to many, but not duly acted on—the certain fatality of cancer of the lip, if left to its own course, or if treated in any other way than by excision; and the necessity of, and more especially the almost certain cure consequent on, that measure.

In the course of rather more than twenty years of practice, it has been my lot to observe very many of these cases; on the one hand proving what I fear cannot be said of scirrhus at other parts of the body, the real utility of excision; and, on the other hand, as clearly demonstrating the certain melancholy fatality conse-

quent on reposing on other treatment, to the exclusion of the only real remedy, the knife.

The disease begins with some little wart or fissure, or abrasion, and it most commonly occurs on the lower lip. Before very long ulceration is perceivable, and induration, and the progress is much like scirrhus at other parts. One or two cases will be sufficient in illustration.

A few years ago a medical practitioner was on a visit to a gentleman in this country, on whose lip he one day accidentally observed a very small appearance of the sort above mentioned. He was told it had been there many weeks, and had not changed much in appearance, either for better or worse, notwithstanding various applications had been used. He advised excision, but others recommended the trial of various escharotics for several months; and beyond this, I believe, even still more delay occurred. At last, after an interval I imagine of nearly a year from the time that excision was first advised, the disorder becoming more formidable, it was decided in consultation that the time for an operation had passed, and the poor gentleman died a lingering and miserable death.

About seven or eight years ago a labouring man, resident in this neighbourhood, showed me a small ulcer in his lip, which he attributed to the adhesion of a tobacco pipe, while smoking. The ulcer had been there two or three months, and there was some hardness around it. He had applied leaves and ointment to it, without benefit, and lunar caustic had been used. I advised him to let me cut it out, but he declined. I met this man some six or seven months afterwards, when he again showed me his lip. The disease had increased, having become a hard tumour, about the size of a nutmeg, with an ulcerated surface. On this occasion I urged very strenuously the necessity of excision. He was unable to muster sufficient courage, and I again lost sight of him for several months. He then came a third time. I examined the poor man again; but the disease had extended too deeply. The submaxillary and sublingual glands were contaminated; the tongue itself was assuming a morbid appearance, and it was decided, by others as well as by myself, that an operation could be of no avail. This poor creature perished in the most horrible manner; not, however, until the deadly parasite had gnawed its way through the mouth to the pharynx and œsophagus.

On the other hand, I have around me many cases (and I know of many more) in which the operation has been performed ten, fifteen, and eighteen years ago; and though in all of these the operation was only had recourse to when there was no mistake as to the malignancy of the disease, in none has it returned.

Whether the disease in question be or be not true scirrhus, is not a point for me to determine. One thing to me is certain, that there is a disease of common occurrence in the lip, watery or ulcerative, with induration, trifling at first in its appearance, insidious in its progress, but fearfully fatal in its result; which, if treated by excision, rarely, perhaps never, returns—if otherwise, leads invariably to a painful death.

The operation is sufficiently simple. A triangle of lip must be taken out, the base of which triangle is formed by the surface of the lip, with the tumour or ulcer on it. The incisions are best made with a bistoury, extending beyond the induration on each side of it, so that the apex of the triangle may be thoroughly clear of induration. A semicircular incision has been recommended around the induration, but this is not so good as the triangular operation. The wound is much longer, healing by granulation, and leaves a worse lip; indeed, it is astonishing how very little deformity or inconvenience arises after the triangular operation, two or three small sutures, strapping, and a light bandage being all that is required in the way of dressing.

An ulcer or wart, or tumour of the lip, of suspicious appearance, may be treated by caustics or escharotics for a short time; but if the disease gives evidence of increase instead of diminution, it is unjustifiable to delay excision until the adjacent textures are implicated, because of this exceedingly important fact—that what is malignant here, unlike malignant disease of other parts of the body, is at an early period entirely under the control of the knife. In short, that scirrhus at this part is capable not of extirpation only, but of extermination.

ART. 52.—*The Treatment of Venereal Diseases.*

(Lancet, June 24, 1848.)

Formulary of the Hôpital du Midi, as collected by the Reporter of M. Ricord's Lectures in the Summer of 1847.

NON-VIRULENT DISEASES.

1. *Injection for balanoposthitis.*—Make three injections a day between the glans and prepuce with the following fluid:—Distilled water, three ounces; nitrate of silver, two scruples.

2. *Abortive treatment of blennorrhagia.*—Make one injection only with the following liquid:—Distilled water, one ounce; nitrate of silver, fifteen grains. And take every day, in three doses, the following powder:—Cubebs, one ounce; alum, thirty grains.

3. *Injection for blennorrhagia when the period for the abortive treatment is passed.*—Make three injections daily with the following liquid:—Rose-water, six ounces and a half; sulphate of zinc, and acetate of lead, of each, fifteen grains.

4. *Internal treatment of blennorrhagia.*—Take one tablespoonful of the following emulsion three times a day:—Copaiba, syrup of tolu, and syrup of poppies, of each, one ounce; peppermint-water, two ounces; gum arabic, a sufficient quantity; orange flower-water, two drachms.

5. *Acute stage of blennorrhagia.*—Twenty leeches to the perinæum; bath after the leeches: refreshing drinks; rest in bed; low diet; suspensory bandage. Take one of the following pills four times a day:—Expressed and inspissated juice of lettuce (*lactuca sativa*), and camphor, of each, forty-five grains; make twenty pills.

6. *Gleet.*—Make every day three injections with the following liquid:—Rose-water, and Roussillon wine, of each, six ounces; alum and tannin, of each, ten grains.

7. *Subacute epididymitis.*—Rub the testis twice a day with the following ointment:—Stronger mercurial ointment, and extract of belladonna, equal parts of each; a poultice to the part after the ointment, and rest.

8. *Acute epididymitis.*—Fifteen leeches to the perinæum, and the same number in the groin corresponding to the affected epididymis; bath after the leeches; barley-water for common drink: low diet, rest, and poultice.

9. *Chronic epididymitis.*—Apply Vigo's plaster to the testes, and wear a suspensory bandage. (Simple plaster, yellow wax, pitch, ammoniacum, bdellium, olibanum, mercury, turpentine, liquid styrax, and volatile oil of lavender, are the component parts of Vigo's plaster.—Reporter of Lectures.)

VIRULENT DISEASES.—PRIMARY SYMPTOMS.

CHANCRES.—10. *Abortive treatment of chancre.*—Within the first five days of the contagion, destroy the chancre with *potassa fusa cum calce* (*pâte de Vienne*).

11. *Regular non-indurated chancre.*—Frequent dressing with the aromatic wine,* extreme cleanliness, occasional light cauterization with the nitrate of silver. Rest, demulcent drinks; when there is inflammation, antiphlogistics, purgatives, and emollient applications. (N.B. No mercury.)

12. *Phagedenic chancre.*—Complete cauterization with the nitrate of silver, the liquid nitrate of mercury, the *potassa cum calce*, or the hot iron, according to circumstances. Afterwards lotions with aromatic wine, three ounces; extract of opium, three grains; or, aromatic wine, eight ounces; tannin, thirty grains; or, distilled water, three ounces; tartrate of iron and potash, four drachms; or, in the scrofulous diathesis, distilled water, three ounces; tincture of iodine, one drachm; or, sulphur ointments, and sulphurous baths. Internally—tartrate of iron and potash, one ounce; distilled water, eight ounces. One ounce three times a day.

* Aromatic wine, (Parisian codex.) Aromatic species, (viz. the dried tops of the sage, halm, thyme, wild thyme, marjoram, hyssop, peppermint, wormwood,) two parts; vulnerary spirit, (viz: alcoholic distillation of anthyllis vulneraria, origanum, gnaphalium dioicum, arbutus uva ursi, and several others, known under the name of vulnerary flowers, and largely exported through Europe, by the Swiss, for popular purposes,) one part; red wine, sixteen parts. Macerate for a few days, then filter.

13. *Indurated chancre*.—Three dressings a day with the following ointment:—Calomel, one drachm; axunge, one ounce. (N.B. Mercury is used internally for the *indurated chancre*: as to the mode of administration, see secondary syphilis, No. 21, as the metal is given in the same manner in both cases.)

BUBOES.—14. *Acute non-specific adenitis, or inflamed bubo*.—Twenty leeches on the tumour, emollient cataplasms, barley-water as ordinary drink, rest, broths. If fluctuation be detected, let out the purulent matter by a free incision.

15. *Abortive treatment of the bubo consecutive, by absorption of the virus, to the non-indurated chancre*.—Deep cauterization, of ten minutes' duration, with the potassa fusa cum calce, and await the fall of the eschar. (N.B. Analogous to the early destruction of chancre.)

16. *Bubo consecutive to the non-indurated chancre, which inevitably suppurates*.—Use antiphlogistics according to circumstances, and then free the purulent matter by cauterization with potassa fusa; gradually destroy afterwards, by the use of caustics, the glandular mass which lies at the bottom of the open bubo. To the poultices used after cauterization may be added an ointment of equal parts of extract of belladonna and mercurial ointment.

17. *Horse-shoe bubo and gangrene*.—Horse-shoe and phagedænic ulcers in the groin, resulting from a suppurating bubo, require the dressings mentioned in No. 12.

18. *Gangrene*.—Chloride of lime, one ounce; distilled water, three ounces. This lotion is to be used several times a day. Or, powdered charcoal, powdered Peruvian bark, equal parts of each, to be thickly applied to the sore.

PREPUTIAL COMPLICATIONS.—18. *Phimosis*.—Inject between the glans and prepuce the aromatic wine with opium, as mentioned in No. 12, and use emollient and sedative applications; if gangrene be imminent, operate.

19. *Paraphimosis*.—Keep the organ raised, and surround it with cold compressors. Bland diet, refreshing drinks; endeavour to reduce or free the constriction by an incision, according to circumstances. After the strangulation is relieved, use emollient and antiseptic applications, combined with opium.

SCROFULOUS COMPLICATIONS.—20. Order every day the following emulsion in three equal doses:—Iodine, three grains; oil of sweet almonds, one ounce; gum arabic, a sufficiency; almond emulsion, three ounces.

SECONDARY SYPHILIS.

21. Order every day three tumblers of decoction of saponaria leaves, and put into each tumbler one tablespoonful of sirop de cuisinier, (N.B. Sirop de cuisinier: sarsaparilla, borage and white rose leaves, senna, aniseed, honey, and sugar;) and take every day one of the following pills:—Proto-iodide of mercury, inspissated juice of lactuca sativa, of each, forty-five grains; extract of opium, fifteen grains; extract of hemlock, one drachm and a half. Mix, and make sixty pills.

22. *Slight Stomatitis*.—To gargle three times a day with the following liquid:—Decoction of lactuca sativa, five ounces; honey, one ounce and a half; alum, one drachm and a half.

23. *Mercurial Stomatitis*.—To gargle three times a day with the following liquid:—Decoction of lactuca sativa, five ounces; honey, four drachms; hydrochloric acid, fifteen drops.

24. *Salivation*.—Order every day one drachm of flowers of sulphur, incorporated with honey. As a common beverage, the nitric acid lemonade. Gargle three times a day with decoction of lactuca sativa, five ounces; honey, four drachms; hydrochloric acid, fifteen drops.

25. *Mucous patches in the mouth*.—Gargle three times a day with decoction of hemlock, six ounces and a half; bichloride of mercury, three grains.

26. *Mucous tubercles around the anus (condylomata)*.—Put twenty leeches to the perinæum. Take every evening a small enema of a decoction of poppy-heads, cold, and mixed with twenty drops of laudanum. As an habitual beverage, take linseed tea, sweetened with sugar-and-almond emulsion.

27. *Vegetations*.—Put twice a day on the vegetations the following powder:—Powdered savine, oxide of iron, calcined alum, of each one drachm.

TERTIARY SYPHILIS.

28. Order one tumbler of decoction of saponaria three times a day. In each tumblerful put a tablespoonful of the following syrup:—Syrup of sarsaparilla, one pint; iodide of potassium, one ounce.

ART. 53.—*Enterotomy for the Relief of Obstructed Intestine from a Tumour at the Lower Extremity of the Sigmoid Flexure of the Colon.* By B. M. A. DIDOT.

(*Bull. de l'Acad. Roy. de Belgique*, vol. vi, and several British Journals.)

The following is another successful example of the employment of M. Amussat's operation, the establishment of an artificial anus in the lumbar region for the relief of obstructed bowel.

A man, æt. 65, had suffered from great irregularity of the bowels for about four years, extreme constipation, varying with severe attacks of diarrhœa. For above a year these symptoms had been accompanied with a dull pain in the hypogastric region, which had latterly become more severe, and of a lancinating character, and no evacuations could be obtained by the use of strong purgatives and enemata; and even by these means the quantity of feculent matter evacuated was very small. His sufferings at last became extreme; the abdomen was enormously distended; and, worn out by constitutional irritation and suffering, he was most anxious for relief by any means.

On introducing the finger as far as possible into the rectum, the obstruction was found to be caused by a hard tumour, of the size of a large billiard ball, situated about the lower extremity of the sigmoid flexure of the colon. As the perforation of the intestine above this point was the only chance of giving vent to the accumulated feces, by which the colon was enormously distended, this operation was immediately recommended to the patient, and was performed in the following manner:

The patient being placed on his belly, an incision, three inches in length, was made transversely in the left lumbar region, half way between the crest of the ileum and the false ribs. After dividing the muscular layers and the fascia transversalis to an equal extent with the first incision, the back part of the colon, where it is not covered by peritonæum, was exposed.

Two needles were then made to transfix the intestine, each armed with a ligature, by means of which the intestine was gently drawn forwards towards the mouth of the wound, and a crucial incision, about an inch in length each way, made through the coats in the space between the ligatures. An enormous evacuation of feces followed the first perforation of the intestine, and the cut edges of the bowel were drawn out by the ligatures through the wound, during the evacuation of the pent-up contents of the colon. The edges of the intestine were then attached to the skin by five points of suture. A poultice was applied over the opening; and complete and immediate relief was obtained by the patient from his protracted sufferings.

The feces continued to be evacuated freely by the artificial opening; and eighteen days after the operation a small quantity was evacuated by the natural exit. Some days afterwards blood and purulent matter were evacuated by the anus; and on examination with the finger in the rectum, the tumour was found to be ulcerated in several points. Two months after the operation the patient is stated to have improved so much in health as to be able to move about with comfort, and to have gained flesh.

No further mention, however, is made of the state of the artificial anus or of the progress of the disease. The case is important, as showing the relief and prolongation of life which may be obtained from the performance of this operation. M. Amussat is said to have adopted this proceeding in eleven cases, in all of which similar good results to these here mentioned have been obtained.

ART. 54.—*Removal of a Foreign Body from the Duct of Wharton.*
By Dr. H. F. CAMPBELL.

(*The Southern American Medical Journal.*)

A nurse, æt. 14, while engaged at work, with a pin in her mouth, felt pain under the tongue, and endeavoured to remove the pin; but on feeling for it, could only find the *point* protruding at the side of the frænum linguæ. Her efforts to extract it by the point caused it entirely to disappear; becoming alarmed, she called for assistance. On examination there could not be seen the least trace of any foreign body whatever: she said that "the pin was under her tongue, in the flesh *head foremost*." It gave her no pain, except when disturbed with the fingers; the orifice of the Whartonian duct was patulous, and some saliva was flowing from it. On applying the finger to the floor of the mouth, the pin could easily be felt near to the base of the lower jaw; though from the distance to which the head had proceeded towards the cæcal extremities of this duct, it was impossible to protrude it by applying pressure from behind; and further, from the handling to which the parts had been subjected, the point had been pushed out of the direction by which it entered, and having pierced the side of the duct, was resting on the alveolar process. It was very moveable, and receded on the slightest pressure.

Failing of its removal by manipulation, the following method was adopted:—Its exact situation being ascertained, the object, together with the parts surrounding it, was seized by the forefinger of the left hand in the mouth, and the thumb in the digastric region, and pressed outward against the inner surface of the lower jaw under the alveolar projection; a tenaculum was then introduced from within outward through the mucous membrane (avoiding the situation of the gustatory nerve, which near this place crosses the duct), so as to inclose the duct and hold the pin fixed; on elevating the tenaculum, the point of the pin became prominent about three lines posterior to the orifice of the duct. The mucous membrane and coats of the duct being cut through with a scalpel, the pin was removed with the dressing forceps by the *point*, which protruded through the opening of the incision. A copious discharge of saliva followed its removal. The incision healed rapidly, and the patient recovered without any trouble. The pin was $1\frac{1}{4}$ inches in length.

ART. 55.—*The Treatment of Callous Ulcers.* By JAMES SYME, Esq.

(*Contributions to the Pathology and Practice of Surgery.*)

A large blister over the sore and neighbouring swelled parts of the limb has the effect of speedily dispersing the subcutaneous induration and thickening, so as to relax the integuments, and thus remove the obstacle to healing action. In the course of a short time, seldom exceeding a few days after the blister has been applied, the surface of the ulcer, however deep it may have been, is found to be on a level with that of the surrounding skin, not of course through any process of reproduction or filling up, but merely from the removal of interstitial effusion, allowing the integuments to descend from the position to which they had been elevated, as may be readily ascertained by measuring the circumference of the limb before and after it has undergone the effect of blistering. But, along with this change of form, the ulcer in other respects no less speedily acquires the characters of a healing sore, assuming a florid colour, affording a moderate discharge of purulent matter, and presenting a granulating surface, with surrounding margin of cicatrizing pellicle. No subsequent treatment beyond the attention requisite for ensuring quiet and cleanliness is needed, and recovery is completed, not only more quickly, but with much less tendency to relapse than when accomplished by other means.

The facility, rapidity, economy, and lasting effect of this treatment, seem to give it a decided advantage over the other methods in use; and, so far as I am aware, no one who has tried the plan ever afterwards hesitated to employ it in preference to any other. In order to derive the full amount of benefit, the practice must be carried fairly into effect, and the principle upon which it is founded should be distinctly understood. The enlargement of the limb being of secondary formation,

and resulting from the continued irritation of a sore allowed to remain unhealed through neglect or improper treatment, when once established, prevents the contraction of granulating action, by which alone solutions of continuity, not within reach of union by simple adhesion, admit of reparation. Pressure, the horizontal posture, and all other means that tend to remove the obstacle thus presented, will promote the patient's recovery. But of all the means that can be employed for this purpose, blisters appear to be the most efficient, and should, therefore, be employed for the remedy, not only of the purely indolent and callous ulcer, but of other kinds, which, in addition to their own peculiar characters, show evidence of complication with indurated enlargement of the limb. From this condition it is hardly necessary to mention that the œdematous swelling of weakness and impeded circulation must be distinguished.

ART. 56.—*Contraction of the Muscles of the Legs, Feet, and Toes, probably resulting from a Rheumatic Affection—Consecutive Deformity of these parts—Cure by Tenotomy and Orthopedic Apparatus.* By M. ROBERT.

(Condensed from the *Gazette des Hôpitaux*, Nov. 17, 1848.)

A woman, æt. 27, was taken all at once, during her sleep, with a very acute pain in the right leg, which in the morning she could not raise. A few days afterwards similar pains occurred in the lower part of the left leg, whence they radiated throughout the whole limb. Three months afterwards the legs were bent slightly on the thighs, the feet were in state of extension; and in the left foot especially, the four last toes were retracted and bent in the form of a crochet. In July, 1848, three or four months after the contraction, the pain ceased a little, but the parts remained in the deformed position which they had assumed; the inferior limbs became obviously atrophied.

November 20, 1846. To recapitulate the series of symptoms actually present, it appears—

1st. That the leg, the feet, and the toes are in an unnatural and fixed position. 2dly. That the cause of this is not attributable to any disease of the articulations, since motion is possible, and within certain limits without pain; and since articular disease cannot be traced in any part. 3dly. That this state is attributable to the shortening of certain muscles, as demonstrated by the projection and tension of the tendons of these muscles, when by moderate traction we attempt to separate their attachments. The muscles affected are the gastrocnemii and solaris, the long flexors of the toes, the tibialis posticus, and the flexor of the great toe in a slight degree; in a word, all the muscles of the posterior aspect of the leg. 4thly. The muscles which are thus shortened are at the same time affected with a certain degree of atrophy. This state of muscles has been designated by the term muscular retraction. It is characterized—1st, *physiologically*, by the permanent shortening of the muscle, and the impossibility of stretching it to its original length; 2d, *anatomically*, by the diminution of the volume of the muscle, the atrophy of its fleshy portion, the fibrous portion not being altered, and thus becoming more apparent and proportionally larger; a circumstance which has led some observers to believe that the fibrous portion has really increased at the expense of the muscular portion.

Muscular retraction is not a primary alteration of the muscles. It is most frequently preceded by a state of contraction, which has some analogy with the contraction determined by the will, in this point of view, that the muscle is found in the organic conditions which it presents during voluntary contraction; shortening of the muscle effected at the expense of the fleshy portion, which gains in thickness what it loses in length; but which, in a state of retraction, is involuntary, continuous, and sometimes painful, especially when any endeavour is made to overcome it by traction.

Muscular contraction may cease spontaneously, or by an appropriate treatment; and if it has not continued too long, the muscle recovers its natural length; but if it is of long standing, and the muscle has become atrophied, the muscular fibre undergoes the change which I have pointed out; the muscle becomes, in reality, shorter, and gradually assumes the characters of muscular retraction.

Thus contraction is a tonic, dynamic, perhaps inflammatory shortening, which may subside; whilst retraction, the effect of contraction, and perhaps also of the

absolute immobility in which the muscle has been placed, is an organic permanent shortening.

In this case there is no trace of any nervous affection, whether congestive, convulsive, or spasmodic; the contraction of the muscles of the calf alone can be only a local affection. Sometimes the muscles become the seat both of contraction and retraction, because they are in the neighbourhood of inflamed parts; but in this case nothing of the kind occurred. Rheumatism is unquestionably the cause of contraction. I have seen, M. Robert remarks, many examples, especially in the sterno-mastoid muscle, and the lateral muscles of the neck; it appeared also to be the cause of the contraction in this patient. In fact, this young woman inhabited for three years a very damp lodging. Her health was greatly altered by it, and she was chlorotic; when all at once she was taken with pains, first in one leg and then in the other. The pains were followed by the deformity of the limbs. Here we recognise both the cause and the progress of rheumatism.

There are only two means of restoring the retracted muscles to their usual length.

1st. By a permanent force on the two attachments of the muscle, so as, gradually, slowly, and mildly, to return it by degrees to its natural state. Orthopedy will furnish us with the means to obtain this end; but it will suffice only in cases in which the affection is but slight, and not of long standing. In this patient the long flexors of the toes would be acted upon with difficulty. 2dly. By tenotomy, which has the advantage of obtaining, in a few days, and much more easily, the effects of orthopedy. At all times, since the change from contraction to retraction is slow and insensible, we should first employ, especially in cases which are not of long standing, baths, douches, frictions, &c.

Tenotomy is the method, *par excellence*, in these affections. After the employment of the measures indicated in the case in question, a section was made of the left tendo-Achilles. An apparatus was then applied to adjust the feet; but the adjustment could not be effected, the pain being extremely violent in the trials which were made, and other mechanical obstacles presented themselves. M. Robert then resorted to section of the other tendons of the leg and feet, and especially of the plantar aponeurosis. After these operations the feet could be adjusted; and with the aid of the orthopedic apparatus, successively had recourse to, the result was a complete cure. The patient, it is true, kept in bed about three months, but she quitted the hospital in a most satisfactory state. We saw her several months afterwards, and found her fat, and walking easily without any kind of support. This is one of the splendid results which we have observed of the operation of tenotomy resorted to in these cases of deformity.

ART. 57.—Mode of Reducing Dislocations of the Humerus at the Bristol Infirmary.—Without any preliminary treatment, the patient is seated sideways on a firm chair, with his arm hanging over the back, which is well padded, one end of a double or reel-towel is passed through the other end, so as to form a noose, which is applied to the arm just above the elbow. The loose depending part of the towel forms a stirrup, into which the surgeon places his foot, and gradually brings his whole weight to bear on the towel, as an extending power. One or two assistants are useful to press back the acromion, and keep the patient firmly in his seat. The reduction is effected almost immediately, and, if due precaution be observed in properly padding the chair, and the arm where the towel is applied, little or no pain is felt, nor any subsequent inconvenience from the pressure.

Prov. Journal.

ART. 58.—The Treatment of Aneurism by Compression—Corollaries.
By Dr. BELLINGHAM.

(*Dublin Medical Press*, Jan. 20, 1848.)

1. The arteries to which compression is applicable being far more frequently the subject of aneurism than those to which it is inapplicable, compression is calculated to supersede the ligature in the great majority of cases.

2. The cure of aneurism by compression upon the artery between the aneurismal sac and the heart, according to the rules laid down here, is accomplished by the gradual deposition of the fibrin of the blood in the sac, until both the latter and

the artery at the part are completely filled. The process is in fact exactly similar to that by which nature effects a spontaneous cure of aneurism.

3. Such an amount of pressure as would cause inflammation and adhesion between the opposite sides of the artery at the point compressed is never required.

4. The pressure should not be so great as to interrupt the circulation in the artery at the point compressed; an essential agent in the cure being that a current of blood should pass through the sac.

5. Compression by means of two or more instruments, one of which is alternately relaxed, is much more effectual than by any single instrument, and in many instances the pressure can be maintained by the patient himself.

6. The treatment of aneurism by compression does not involve the slightest risk to the patient, and if persevered in cannot fail of effecting a cure.

7. A cure of aneurism effected by compression, according to the rules laid down here, must necessarily be permanent; and in every case in which a cure has been accomplished, the patients have remained well subsequently.

8. The femoral artery remains pervious after the cure at the point at which the pressure had been applied, and no morbid change of any kind is to be detected in either the artery or vein at the side of the compression.

9. When a cure is effected by compression, the vessel is obliterated only at the seat of the aneurism, and the artery at this part is eventually converted into an impervious ligamentous band.

10. Compression effects the cure of aneurism by more simple and safer means than the ligature, while it is applicable to a number of cases in which the operation is contraindicated or inadmissible.

11. Compression is not necessarily a more tedious or more painful method of treating aneurism than the ligature, while it is much more certain, more likely to be permanent, and is free from all danger.

12. Compression, according to the rules laid down here, has little analogy with the old method which went by this name; and in fact has no greater resemblance to it than the Hunterian operation had to the operation for aneurism which it superseded.

ART. 59.—*Successful Amputation at the Hip-joint—Employment of Ether.* By M. HÉNOT, of Metz.—In a memoir presented to the Academy of Medicine of Paris, M. Hénot relates the case of an hospital servant (male), 26 years of age, who had a large exostosis of the right femur, involving the bone as high as the trochanters. There was also disease of the medullary cavity with perforating fistulas of the bone, abscesses of the thigh, and hectic fever; under which circumstances amputation at the hip-joint was proposed as the only means of saving life. The operation chosen was that of Bécclard, by anterior and posterior flaps, but the posterior flap was prolonged by a third, and the anterior shortened, so as to bring the cicatrix more in front. Ether was inhaled by the patient previous to the operation, which, with the ligatures of the arteries, was accomplished in 5½ minutes, and was quite unattended by pain. The wound was brought together by six points of interrupted suture; it was ten inches in length. Four-fifths of it healed by the first intention; the remainder was kept open by a moderate suppuration, which continued six weeks, and then declined insensibly, permitting of the complete cicatrization of the wound on the ninetieth day from the operation. The ligatures came away from the eighteenth to the forty-fourth day. The process of cure was entirely satisfactory, and the result was an excellent cushion of flesh for the application of artificial means of support.

Archives Générales de Médecine, Dec. 1847.

ART. 60.—*The Employment of Gutta Serena in Surgery—Its Use in Club-foot, Simple and Compound Fractures, Necrosis, Amputations, Diseased Articulations, &c.* By W. LYON, Esq., sen., Surgeon to the Glasgow Royal Infirmary.

(Condensed from *The Monthly Journal*, August 1848.)

Club-foot. I have now employed this article very successfully in several cases, seen it used in others, and write this to bring it under the notice of the profession, convinced, after numerous trials of all the other methods, that it is by far the most

manageable and effectual, and that it will enable every one possessed of even the least dexterity successfully to conduct the treatment of club-foot; thus getting rid of the cumbrous, complicated, troublesome, and expensive apparatus in ordinary use, and enabling us to confer equal advantages on the poor as were mainly confined to the rich, and by which surgeons in situations remote from instrument-makers may, with the utmost facility, treat these species of deformities.

It may be applied in various ways; but the method I have followed is this: they were all cases of *talipes varus* in both feet; and after dividing the tendo-Achillis, a procedure probably not required in very slight cases, but if not indispensable, at least greatly abbreviating the treatment in severe ones; a bit of plaster was put on the wound, and a roller from toes to knee for protection of the soft parts.

A bandage of gutta percha, the thickness of a penny-piece, about an inch, more or less, in breadth, proportionate to the size of the limb, softened in nearly boiling water, and dried by gentle pressure between the folds of a towel, was then quickly made to enwrap the limb from the toes to the knee, in the usual manner of the common roller.

The limb is thus encased in gutta percha; and while the material is still soft and adhesive, it is firmly and equally kneaded by the fingers, so as to mould it closely to the parts, and cause the turns of the roller to adhere to each other. The limb is now firmly held below the knee, while the foot is gently twisted outwards, with the toes in the same direction, and upwards. The desired position is maintained until the material becomes cold, which it does in a few minutes, which time may be shortened by immersion in cold water; when the *light, hard, equal, strong* mould thus formed effectually prevents the return of the foot to its abnormal position.

In a few days the gutta percha is removed, a matter easily accomplished by a regular unrolling of the turns of the bandage, reapplication is effected, a little further restoration of deformed parts being obtained; and by thus proceeding at intervals of a few days, the foot and limb are, in the course of two or three weeks, restored to their normal relations.

I suspect it is a considerable recommendation of this method—by the material in form of a roller—that it is with the greatest facility removed, which I do not think would be effected without difficulty if the mould were otherwise formed. It would add greatly to the value of the practice could the material be easily softened, the parts adjusted, and removal avoided. This I have attempted; but the high temperature required to make it soft and adhesive rendered the effect abortive.

I have not experienced any bad effects from the practice; but I can readily conceive, if the mould be dimpled when soft, or otherwise applied unequally, that pain, ulceration, or abscess must follow, although protection by a thick, soft bandage, layers of carded cotton, or a stocking, will go far to prevent or remove them. So likewise, unless in some cases the urine be prevented, by a piece of oiled silk, from constantly soaking the bandage and skin, excoriation will ensue; and it has been said that confinement and accumulation of perspired matters will have a similar tendency. To which I can only reply that it has not happened in my cases, even when the mould has remained on for weeks, which it will very rarely require to do in club-foot.

I have repeatedly, without the least untoward occurrence, operated within a week after birth. The patients treated by the plan recommended were all infants (one excepted, who was three years of age); and it may be questioned whether the method is applicable to more advanced periods of life. From my experience by the analogous method, with Paris plaster, I have not a doubt the gutta percha will answer for more advanced patients in the same degree as the more common modes of treatment; that is, that it will be found as efficacious and manageable, if not more so; but it will be necessary to proportion the strength of the mould to the resistance to be overcome—a matter easy of accomplishment by several coatings of the gutta percha roller.

There is one drawback to the plan; but it is more in appearance than reality. The articulations in the foot and at the ankle are rendered immovable, and assistance in throwing the foot upwards and outwards, by the weight of the body in

standing and walking, is lost. This objection does not apply in the cases of very young infants, who are unable to stand; and the paralyzing effect of perfect repose on the overacting muscles, and the gain by the contraction which is permitted to the opposite and debilitated ones, have a rapid effect in restoring the balance of action. At all events it is easy, when the difficulties of removing the deformity have been overcome (by far the most troublesome and painful period of the treatment), to prevent relapse by exchange of the gutta percha for such an apparatus as will allow the muscles to be called into action, the articulations to play, and the weight of the body, in standing and walking, to aid in the perfect restoration of position and muscular action.

It must not be overlooked that in club-foot (*varus*, at least) the disease and consequent deformity are not confined to the foot. The whole limb is generally affected, the leg and thigh are rolled inwards; and though the sole may be turned down, if means be not taken to counteract the involution of the other parts, the patient will nevertheless walk with the toes of each foot directed completely inwards, the one requiring to pass over the other at each step, as is often seen; or if existing in a lesser degree, will constitute the ungraceful state called in *toes*. This is obviated in the treatment with the usual steel apparatus, by fixing the leg-straps at a proper point on a metal band which passes round the pelvis. A similar result is obtained by the method I recommend, placing the feet in a pair of boots, with the toes directed outwards, as in the "first position;" the boots being retained in the proper direction by being sowed on a piece of sole leather, and worn constantly or occasionally, as may be thought requisite. In this way one set of muscles is elongated and debilitated, another abbreviated and strengthened, as by the gutta percha on the foot and leg, and balance of power is in a short time obtained.

By perseverance for several months, I have never failed, in young patients, to restore the healthy form and action of the parts.

Fractures. Any plan by which the patient can be invigorated by exercise, while the injury and irksomeness of long and perfect rest in bed are avoided, is surely an important gain. These purposes are most effectually served by the gutta percha.

In several cases of simple fracture of the bones of the leg, the *excitement* and *swelling* having subsided under attention to perfect repose, elevation of the member, and the use of the ordinary roller, lateral cushions, splints, &c., I have most advantageously practised the following method:

The foot being surrounded by a common roller, and the leg with a Scultetus bandage, adjustment of the fracture is maintained by extension, while at the same time (whether beginning above or below is unimportant) the limb is encircled by the turns of a properly-softened gutta percha roller (that is, of a strip of the material two or three inches broad), applied edge to edge, so as to avoid inequality in the mould, which might irritate when it becomes cold and hard. Over this a similarly prepared roller is passed from toe to knee, which, adhering to the one below, and to each of its own turns, forms in a few minutes (a great advantage over the starched bandage and leather splint) an equable, light, strong, hard case for the limb, completely preventing motion at the seat of fracture; and in fact acting, like the shell in some of the lower animals, as an *external* bone, within which are the soft parts, and in this manner, in fracture, the broken bone is protected, and effectually prevented from displacement.

If the patient were to be confined to bed, this method would be applicable to fracture at any part of the leg; but its principal recommendation is, that the patient by it is not necessitated to keep his bed. It will be evident, however, that the plan is not likely to be equally efficacious in all cases; as, for instance, in those near or in the upper third of the femur, where the upper fragment being short, and the lower long, consequently affording by weight a powerful lever, displacement will be hazarded, but may be prevented by extension of the mould to a portion of the thigh.

As to displacement by shortening, this may be prevented by close application of the mould below the broad head of the tibia, which will prevent its slipping upwards; and although it may be supposed that the mould will revolve, and thus alter the proper relation of the fragments, this does not happen, the unequal figure of the limb preventing it.

In a week after the reception of a fracture, the patient may thus be enabled, by his own efforts, to throw his limbs out and sit on the side of the bed; or the limb may be raised and allowed to fall on the bed without injury, and, in fact, without pain. He may be allowed to turn from side to side, to walk with crutches, the limb being slung from the shoulder; the comfort of which, opposed to the ordinary, long, irksome, inconvenient, and debilitating confinement to bed, need not be dwelt upon; and the advantages of which in promoting and perfecting osseous union will be generally conceded, and are peculiarly valuable where the transport of the patient to considerable distances is requisite—a circumstance recommending this method in military practice.

In fractures of the bones of the leg and forearm, and in that of the arm, the eligibility of the gutta percha is very evident; whether applicable to the femur is more questionable; though, if the limb were contained in a tightly-fitting, *light, strong, hard case*, oblique or transverse displacement would be prevented; and if the case extended to the calf or knee, and to the nates, perineum, ischium, and external aspect of the pelvis, the inequalities of the limb below, within the case, and the resistance to the latter by the pelvis above, would, from the pyramidal form of the contained parts, render displacement by shortening unlikely. Trial, however, must determine the point, and I shall take the first opportunity of testing it.

Since writing the above, I have employed the gutta percha in the case of a boy with fracture at the juncture of the superior and middle thirds of the femur. Extension being made, the material was applied, over a roller, from the toes to the upper part of the thigh, close up to the perineum, round the pelvis, and again upon the thigh and the pelvis until the nates of the injured side were completely covered. Immediately after, he could, without uneasiness, be turned from side to side, and carried in his mother's arms, and I doubt not could have readily walked with the aid of crutches. Indeed the thigh and the pelvis were immovably connected; they and the leg might be said to have been in a few minutes converted into a hollow bone, in which the nates, perineum, and tapering form of the limb above, with confinement of the foot in the mould below, entirely removed the fear of longitudinal, while the tightness of the case prevented lateral displacement. Farther trial is necessary before inferring a general rule; but certainly the application had a most promising appearance, and enabled the patient to enjoy a degree of ease, and amount of motion quite new to us in fracture of the femur of a few days' duration.

Several theoretical objections may be made to the practice: such as, that the material being applied warm, it will have contracted when cold, so as to cause injurious compression: that its frequent removal and reapplication will be troublesome and prejudicial, and yet without this the state of parts cannot be observed. None of these occurrences, common to this and the treatment by starched bandage, have presented themselves to me; and if the recommendations are attended to, I do not think they need be feared; while some of them can be prevented, and the others are greatly counterbalanced by many advantages.

Necrosis. I have the method in practice and prospect in several other conditions. Six years ago, a girl was under my care on account of acute necrosis of the tibia. Almost all but the epiphyses became loose, and had been removed by incision; and the limb was then kept straight and steady by splints. At the end of several months osseous matter was deposited throughout all the space from which the necrosed bone had been removed, excepting about an inch in length in the centre; where the small apices of the pyramidally-shaped portions were connected with soft tissue, as in ununited fracture, and, in consequence, the limb has remained useless ever since. Amputation was proposed by one party, removal of the soft tissue and repose, as in ununited fracture, by another. In the meantime, the method of breaking up intervening soft tissue, in non-union of fracture, being proposed by Professor Miller, I determined to give it a trial in the analogous circumstances of this case. The breaking up was very freely executed, and the limb then put up in gutta percha, as described. It has remained free from uneasiness for eight or ten days, and, at least, in such repose as to afford the most favourable local condition for the practice, while vigour is retained by the free exercise permitted.

Amputation. This girl has had a wooden sole and pin attached to the gutta percha case, the diseased limb being shorter than the sound one, and she now walks freely about the ward with the assistance of a stick. She is enabled to do this by the weight of the body being thrown on the broad part of the tibia within the case, while the hardness of the latter prevents the foot being pushed upwards by pressure from the sole; thus showing another important application of gutta percha, viz. for the formation of a box to receive the stump after amputation in the leg, thigh, forearm, or arm. This can be made in a few minutes, at a trifling expense; will be light, easy—from equality and diffusion of pressure—and sufficiently strong. It can be made of any degree of strength, and can be prolonged to the proper extent, either by a pyramidal coil of the same material, or by attaching a wooden cup and pin.

For long stumps of the thigh or leg, I have a strong conviction of the great efficacy of this method—the case of the girl demonstrates it; and I have a hope that, to the poor and labouring class, who principally require such assistance, it will be found an important acquisition.

Compound fracture. A few days ago I dissected off a flap, and removed a detached fragment three or four inches long, which lay in the cancellous structure at the point of contact of the two fragments, in a case of compound fracture of the tibia, which has been under treatment for six months, and is still ununited. I likewise pared the smooth rounded extremities of the fragments; and when the excitement has passed off, intend to put up the limb in gutta percha. By perfect repose, the improvement of the debilitated frame by exchange for exercise after the long confinement to bed, and the removal of the dead fragment which acted like a foreign body, I hope yet to avoid recourse to amputation.

Diseased articulation. I have likewise the material under trial for preventing motion in diseased articulations, a mode of treatment now universally commending itself in theory as in practice; and here, too, the article bids fair for supplanting the methods of accomplishing the purpose hitherto in use. When employed with this view, its application in the form of a roller is much superior to that of a splint, the latter permitting some degree of motion. Many other applications of this pliable material suggest themselves; but these trials and propositions will suffice at present for attracting the attention of practitioners to its various and important uses in surgery.

ART. 61.—*On the Treatment of the Irritable Stricture of the Urethra.*

By J. P. VINCENT, Esq.

(*Observations on some of the Parts of Surgical Practice, 1847; p. 178.*)

I am aware that strictures will form quite independent of violence done to the urethra. There are old and very indurated ones of long standing, and occurring in various and uncertain parts of the urethra, which are benefited by the use of metallic bougies, and by the pressure they make upon the parts; but in the *irritable stricture* I am confident that it is not cured in the best way by distension and pressure. I find, if I can once get into the bladder the finest instrument of the catgut kind, I have never been baffled in setting the tube to rights; but this confidence rests upon the fact that the bougie should pass absolutely through the whole urethra, and clearly into the bladder. This accomplished, the patient passes a slender stream with less straining and more comfort than he did before. On the contrary, I have generally found that when I have passed an instrument only just into the stricture, and even forced it through as far as possible without injuring the membrane, but not into the bladder, that, so far from the patient passing his urine better after the operation, he has had much more difficulty, and sometimes altogether a stoppage. These facts prove that the effects that bougies have on the parts is not that strictures of the ordinary kind are cured by pressure, although pressure may for a time dilate the mere contraction, but that there is an influence arising out of the sympathies of the tube which presents itself as a cause, by which a striking and permanent relief is produced in the stricture by a small bougie gently gliding through the prostatic portion of the urethra and fairly entering the bladder, whilst, on the other hand, the mere act of distending a stricture really excites an irritation in the part that adds to the mischief. Even if no other than

a fine bougie be daily passed, the patient will continue to improve, although the size be not increased. It is, indeed, upon the principle of the associations of actions in certain parts of the urethra that these sorts of strictures are cured. Moreover, I have observed that when it has seemed proper to increase the size of the bougie, that on the first use of this larger one the patient has not felt so well as before, but again feels the improvement go on as long as the same size is continued. By these gentle means I have no doubt, from what I have seen, that this class of strictures is best, most safely, and most permanently cured; that irritation, which has called into action associated derangements, being thus removed.

But the influence goes beyond the first stricture I have now spoken of; for if this has existed some time, and advanced so far as to have formed a perfect contraction, there is then another formed in a part anterior to the other, as is well known to surgeons; and if a bougie larger than that which would be used for the posterior stricture be taken, the tube is found obstructed at about four inches down. Now as this is the sequence of the other stricture, and as both are formed in unvarying places in the urethra, and both relieved by passing the bougie to the utmost extremity of the tube, they both must arise from some peculiar state arising out of the endowment implanted in the part near the bladder, independent of concurring circumstances, and acting under settled associations; and therefore, I conceive, it is not correct pathology to say that strictures are the result of casual inflammation indifferently attacking some part of the urethra. This view is strengthened by the fact that the beneficial influence of the bougie is produced on the first stricture, whilst it, by the size, might be regarded as only acting on the posterior, being too small to be calculated in any way to distend the first stricture, while the posterior, on the other hand, will sometimes be benefited by only acting on the anterior one.

In proof of the advantages of mild treatment in strictures, I shall produce this one case: A military gentleman, who had been stationed some years in the Mediterranean, got leave to come to England for relief, as he could get none abroad. He suffered all the misery attending bad strictures, squeezing out a small quantity of urine with torment, &c. He sought the aid of a surgeon, who adopted the practice of forcing a metallic instrument through the stricture, by which he lost deluges of blood, and found, besides, the treatment made no advance in relieving him. He then placed himself under my management. I employed a very fine caugut, but had to make several attempts before I could pass it into the bladder. After I had once accomplished this, he felt considerable relief; and afterwards his improvement was rapid. He was quite restored in all the powers and functions of the tube in a comparatively short time. I am ready to believe that there are no strictures of that kind, which have their origin in mere irritation, that are not perfectly curable by this line of conduct.

ART. 62.—*Excision of the Head of the Femur in Caries of the Hip-Joint.*

By HENRY SMITH, Esq., M.R.C.S.E.

(*The Lancet*, April 1st and 15th, 1848; condensed.)

Amputation at the shoulder-joint has been performed many times for caries of the head of the bone, and for compound fractures in that locality, but there are few well-educated surgeons who would think of resorting to this proceeding now, when the operation of removing the head of the bone is so well understood, and its benefits are so universally acknowledged. Resection of the ends of bones entering into the formation of joints has almost entirely been confined to the elbow and shoulder; and it is rather a curious and an inexplicable fact that, knowing the benefits of these operations, especially that of removing the head of the humerus, British surgeons have not thought of putting in force an operation of a similar kind in another locality—namely, the hip.

The subject has never had paid to it, by most British surgeons, that due consideration to which it is entitled, and it is only very lately that the attention of the profession has been particularly drawn to it.

About thirty years ago, Mr. Anthony White, of the Westminster Hospital, met with a case of disease of the hip-joint, in which all the ordinary measures of cure were found to be unavailable; and in order to give his patient a chance of life,

he deemed it fit to resort to a proceeding of a novel character—namely, resection of the head of the thigh-bone. He put this in force, and with the most entire success, as will be seen by the following extract, which I take from Mr. Cooper's 'Surgical Dictionary':—"The patient was a boy whose femur had been dislocated from disease of the hip, the head of the bone lying on the dorsum of the ilium. There were several fistulous openings in the hip, through which the bone could be detected in a state of caries. He had suffered from the disease for three years, and was in an exhausted condition. Mr. White, reflecting that the original structure of the joint had been annihilated, that the boy would die if no attempt was made to get rid of the diseased head of the femur, and, even if he lived, the limb fixed in this manner across the other would be an encumbrance only, determined to operate. Being assisted by Mr. Traversa, he cut down upon, and exposed the head and neck of the femur, and having sawn through the bone just below the trochanter minor, he raised the detached fragment with an elevator, and extracted it. At the end of a year he recovered, and so useful a new joint had formed, that, with the assistance of a high-heeled shoe, he could walk well, and execute the common movements of the limb. He lived five years afterwards, and died of phthisis."

The parts taken away after death were preserved, and are now in the Museum of the College of Surgeons, No. 391 in the Pathological department. The preparation affords a complete and an interesting proof of the benefit derivable from this operation. A false joint had formed, the end of the femur being securely though movably attached to the ilium by a strong capsule of ligamentous tissue.

Since the period of Mr. White's operation, with one exception, resection of the head of the thigh-bone appears to have fallen totally into oblivion amongst British surgeons. About three years ago, however, a case of disease of the hip was admitted into King's College Hospital, under Mr. Fergusson; it was impossible that any ordinary measures could be of avail, and the patient was gradually sinking. To give him a chance of life, Mr. Fergusson put in practice the operation of White with entire success. This case has already been brought prominently before the profession,* but I shall here mention its particulars.

A boy, æt. 14, had been suffering for several months from disease of the hip, and had been discharged as incurable from one of the largest hospitals in London. The malady had made such rapid inroads upon his constitution, that it was evident he would sink, unless some operative proceeding were resorted to. In addition, the local symptoms were such as indicated that an operation might be successfully undertaken. The head of the thigh-bone was dislocated on to the dorsum of the ilium, and could be felt through the soft parts lying in that situation. A large sinus was situated over the great trochanter, through which the finger could be passed, and carried around the articular extremity of the femur. Several sinuses existed contiguous to the larger one; but it could not be ascertained that any led to diseased bone, or communicated in any way with the pelvis. The head of the bone appeared to Mr. Fergusson to be acting as a foreign substance amongst the soft tissues of the hip, and thus causing great irritation. The operation was determined upon. The head, neck, and trochanters of the femur, measuring four inches and a quarter in length, were removed. Not a bad symptom ensued, and the result was most satisfactory. The boy was brought from the very gates of death; he regained robust health and strength, had a useful limb restored to him, and now remains a wonderful instance of the benefit which the art and skill of the surgeon, when rightly applied, can confer.

The common malady known amongst surgeons as hip-disease consists in an ulceration of the cartilages, and a carious condition of the bones entering into the formation of the joint. The majority of cases are found to exist in children and young persons of a naturally unhealthy and scrofulous habit; and in these its chief influence appears to be excited upon the bone. It is particularly the head of the thigh-bone which, from its spongy structure, is more prone than a more compact tissue to put on a low, scrofulous inflammation, and suffer consequent disorganization. If the disease goes on increasing in severity, the powerful and resisting ligaments of the joint become involved, and give way, and thus a dislo-

* See Medico-Chirurgical Transactions for 1845.

cation of the thigh-bone takes place. Profuse suppuration ensues, and matter escapes in large quantities into the surrounding tissues; communications are formed between the diseased parts and the integument; and thus the local malady is of a most formidable nature.

But the mischief unfortunately does not terminate here; the constitution sympathises most acutely with the local affection. The continual drain of matter, and the severe pain which is an accompaniment of this disease, necessarily produce, as their results, great emaciation and diminution of strength, want of sleep, sweating, and cough, and the patient is gradually brought into a most desperate condition. In many instances he is, after a comparatively short period of suffering, carried to the grave; or should this not be the case, he lies, perhaps for years, a helpless and pitiable object, harassed by pain, and worn down by slow and wasting hectic. It is fortunate that the foregoing is not always the true picture of a case of hip-disease; in many instances Nature, aided by the efforts of a judicious surgeon, will do much. The malady may not be of so serious a character as will resist the application of suitable remedies, and the constitution may be powerful enough, under certain favourable circumstances, to bear up against its attacks, and thus allow time and opportunity for those remedies to be successfully applied. But this favourable result cannot be expected to take place in the more severe cases, especially when unfavourable circumstances have existed, and when there has been neglect. The subjects of the disease will either die, or they will remain in a crippled and pitiable condition for the remainder of their lives.

Such being the condition of things, then, is it not reasonable to suppose, that by taking away the cause of these sufferings, even by a severe operation, the patient will be placed in a much more favourable state than he was before? No hope remains for him if the disease is allowed to go on unchecked; but some considerable hope can be held out by the surgeon, who will be bold enough to resort to a proceeding which is allowed to be justifiable in similar diseases in other parts of the body. But apart from this assertion, the operation *has* been performed, *life has* been saved, and the patients *have* been restored to comfort and health.

One of the chief rules in surgery is this: that whenever any foreign substance is lodged or produced in any part of the body, causing irritation and disease, the same should be removed by the art of the surgeon, if it can be got at. And how constantly does the surgeon act on this principle? He hesitates not, when other measures have failed, to remove, by a formidable and frequently fatal operation, a calculus from the bladder, which is destroying his patient's health and comfort. If the shoulder-joint be diseased, he deems it his duty to remove the head of the humerus, and even portions of the scapula; and some are bold enough even to open the abdomen for the purpose of taking away ovarian tumours—an operation considered by many to be even perfectly in accordance with the rules of art. The diseased bone must be looked upon as a foreign body, producing all the mischief; the indication is to remove it, and if this can be done successfully, it is evident that the proceeding must be regarded as one entirely warrantable by science and the principles of surgery.

But it requires the exercise of a sound judgment to determine upon the proper cases in which this severe operation should be attempted. It must be remembered, that it is not every incurable disease of the hip-joint for which this remedy will be suitable. I shall speak correctly, perhaps, if I say that it is not applicable to the majority of these cases; for it is only under particular circumstances that resection of the head of the femur should be attempted. The disease in the hip must be in its last stage; it is necessary that dislocation of the thigh-bone from its socket should have taken place, and there must be evidence of the disease being confined chiefly to the upper part of this bone, and of a non-implication to any great extent of the pelvic bones.

The symptoms of the last stage of hip-disease and of dislocation are sufficiently well known. At the same time I would have the surgeon not to be too hasty in making up his mind as to the existence of dislocation, for there are cases to be met with in which the signs are deceptive. The distorted aspect of the hip, and the shortening, may lead him to suppose that dislocation exists, especially if the disease has been of long standing. Notwithstanding these symptoms, however, the head of the bone may yet be in its socket, either unaffected by the disease con-

fined to the neck and trochanter, or in a state of partial ankylosis. This occasional difficulty of diagnosis will not stand in the way, however, as few surgeons would think of performing this operation, except in those cases in which it is evident to the eye and the finger that the head of the bone has slipped from its natural situation, and is in a carious condition. If, in such a case, the disease has existed for a considerable time, abscess and sinuses will have formed, and through the latter, by means of the finger or the probe, the head of the bone may be felt and the amount of disease detected. An abscess may exist in this region, and by evacuating it the same object may be gained; the head of the bone will, in some instances, be found lying in the midst of this abscess, on the ilium, and the finger may readily be carried over its surface. To what extent the pelvic side of the joint may be diseased will be a more difficult thing to ascertain, and there are, perhaps, no signs by which we can to a certainty learn this. If, however, much disease exist there, sinuses will be formed over the parts, and by means of them some correct information may be gained. Sometimes the acetabulum in these bad cases is completely perforated, and matter gets into the pelvic cavity; in this case a considerable impulse will be given to any collection of matter which may exist superficially on the patient's coughing, and the local and general symptoms will be much more severe. By looking at the anus and rectum, the surgeon may sometimes be assisted in his diagnosis; for it occasionally happens that when the ulceration extends through the acetabulum, and matter passes into the pelvis, it descends by fistulous openings to the sides of the anus, or more readily into the rectum. The objection to the operation—namely, the existence of disease in the pelvic side of the joint, cannot certainly be entirely overcome; but I believe that great misapprehensions exist with regard to this point. Some surgeons suppose that in every case of hip-disease there must of necessity be an implication of the pelvic bones; even the celebrated Pott laboured under the mistake, for he says,—“In the case of a carious hip-joint the pelvis is never unaffected; the acetabulum, ischii, and parts about, are always more or less in the same state, or at least in a distempered one, and so, indeed, most frequently, are the parts within the pelvis.”*

If psoas or iliac abscess exist, (and iliac abscess does sometimes result from disease of the hip,) an impulse will be given on coughing or crying, and there will be other symptoms which more particularly belong to this affection which the surgeon must well look into when he is thinking about the performance of the operation; for should any of these be met with, it will be out of the question.

If, then, there be dislocation of the thigh-bone, and the head of that bone be found to be extensively diseased, and there is no disease of importance in the pelvic bones, and no communication between the abscesses about the hip, nor any with the pelvis or abdomen; if, also, with these conditions, it be evident that the patient is slowly and gradually sinking under his malady, and the surgeon is convinced that there is no hope for him from natural and remedial means, but that he can hold out considerable hope by the adoption of a proceeding, severe indeed, but not so formidable as is imagined,—then will it be both justifiable and proper to have recourse to this operation; and I think it is the duty of the surgeon, in such a state of things, to give his patient a chance of life, and not to suffer him to die unaided by those resources which are expected to be in his possession.

Various methods have been proposed for performing this operation on the living body. Of all these methods, that which is put in practice by Mr. Fergusson appears to me to be the most applicable. He states,—“An incision through the skin and other tissues (six inches in length, carried over the trochanter) enabled me to expose the portion of the femur which I had resolved to remove; the head, neck, and trochanter major, were isolated and thoroughly turned out of the wound by twisting the limb over the opposite thigh, and a common saw enabled me to effect the separation of four inches and a quarter of the bone.”†

In this case it will be seen that not only the head of the bone, but the great trochanter also, was removed, in consequence of a supposition that the disease extended so far: thus the reason for so long an incision.

If the head of the bone alone is to be removed, a shorter incision, of from three

* Pott's Surgery, vol. iii, p. 412.

† Fergusson's Surgery; second edition, p. 332.

to four inches, will suffice. If the surgeon requires more room to work in, as, for instance, in the application of his saw, a second incision may be made to cross the first—a proceeding I have lately seen Mr. Fergusson put into practice. Care must be taken not to injure the great sciatic nerve, which will be found somewhat in the way. The bleeding will probably require little attention; no ligatures were required in those cases which have fallen under my own observation.

It is highly necessary that the surgeon should look to the condition of the cotyloid cavity; and, as far as I can ascertain, this important point has not been insisted upon except by Mr. Fergusson. If it be found not involved in the disease, the operation is finished: but if the edges of this cavity be carious the cutting pliers should be used, and the unhealthy portions taken away; and should any part of the socket itself be in the same condition it should be taken away by means of the gouge. No surgeon should attempt to perform this operation unless he has in readiness these two most useful instruments.

The after treatment is to be conducted on the ordinary principles of surgery, but particular attention should be paid to the position of the limb; it should be kept straight, and extended as much as possible. If the case does well, the patient gradually loses his night sweats and restlessness; the discharge of matter diminishes, and sinuses which may have existed slowly close up. Under these circumstances it may be fairly presumed that every source of irritation has been taken away.

I have collected together as many as sixteen cases of resection of the head of the femur, and of these one-half proved successful. I find that the operation was not performed in every case for caries of the joint; but it has been undertaken under other circumstances. Thus, in twelve cases mentioned by Roux, it was performed twice for a comminuted fracture of the joint by a ball; once in a case where, after an old fracture into the joint, necrosis supervened; eight times for disease of the hip-joint; and once for caries of the great trochanter and neck of the femur.

Independent of these twelve cases, this operation has been performed four times: once by Textor, on the 15th of January, 1845; all above the lesser trochanter was removed; a complete recovery took place. The three remaining operations have been performed by British surgeons; twice by the gentleman who revived it in this country—namely, Mr. Fergusson, and once by Mr. Simon, of St. Thomas's Hospital. Of the first case of Mr. Fergusson I have already mentioned the particulars; and I have only to add that, within a very few weeks, I have had an opportunity of seeing the patient upon whom the operation was performed three years since. He is a fat, hearty youth, and able, by means of a high-heeled boot and one crutch, to walk long distances. The motions of the false joint which has formed are free in almost every respect; the limb is strong and well developed, and there is a firm and healthy cicatrix in the position of the wound made in the operation.

The second operation was performed about the middle of November last, on a lad eight years of age. Disease of the hip had existed for some time, and had resisted ordinary measures of cure. Dislocation had taken place, sinuses existed, and a large abscess had formed over the ilium, through which, when evacuated of its contents, the diseased head of the bone was easily felt and its condition ascertained. There was great emaciation, hectic fever, cough, and sweating at night, and it was imminent that the child would fall a victim to his malady. After due deliberation and careful examination, Mr. Fergusson determined upon putting his plan into execution. He performed the operation by making a straight incision over the neck and head of the femur, and another crossing it; by this means the diseased portion of bone was got at and removed by the saw. The cotyloid cavity was then examined with great care, and the edges of it, being found carious, were removed by the cutting pliers.

At present it is impossible to give a correct opinion as to what will be the result of this case. As far as it has gone the patient has been much relieved; he has improved in health; has lost his cough and night sweats; has been enabled to sit up in the ward; and complains of no pain in his hip. The wound has nearly healed, but an abscess has formed in its neighbourhood, and thus one is

not able to tell whether all disease has been removed. It is the opinion, however, of Mr. Fergusson, that it will ultimately do well.

Mr. Simon, at St. Thomas's Hospital, performed the operation a few weeks ago. Here the disease was of two years' standing; dislocation of the thigh on to the upper margin of the acetabulum had taken place; sinuses and abscess existed, and there was every probability that the child would die. Mr. Simon, after much care, determined to remove the head of the bone; this he did, as well as some portion of the acetabulum which was involved; unfortunately the patient died four days after the operation. Thus, then, out of sixteen cases in which this operation has been performed, one-half have been successful; and this, in such an operation, and under such forlorn circumstances, must be considered as decidedly very satisfactory. The success in our own country has been very great, for out of the five cases which happened three of them proved successful.

Postscript.—Within the last few days this operation has again been twice performed: each of these cases have been under my close observation, and in both the operation was undertaken partly at my own suggestion. In the first, it was performed by Mr. French, of the St. James's Infirmary. The case was admirably adapted for it, and I can speak with more confidence on that point, as I had repeated opportunities of observing it,—the patient having been an inmate of King's College Hospital eighteen months ago, under Mr. Partridge, whilst I was in office there, and subsequently having been transferred into the St. James's Infirmary, where, through the kindness of Mr. French, I had the opportunity of seeing it. The patient was a girl of ten years: the disease had been standing some time; dislocation had taken place; the head of the bone could be felt on the dorsum of the ilium in a carious condition, through a large sinus; there were no evidences of disease in the pelvis, and the child was a complete cripple and in a delicate condition. The head and trochanter were taken away, and no disease was found to exist in the acetabulum.

In the second case the operation was performed on the 24th of March by Mr. Haynes Walton. The patient was a lad of sixteen, who had suffered for two years from disease of the hip; he had been under various treatment; was several months under the care of the late Mr. Liston. The symptoms were very severe; the appearances those of the last stage of the disease; the hip much distorted; the limb shortened. He suffered excruciating agony when any pressure was made over the upper end of the femur, and an opening existed below the trochanter through which a bloody purulent discharge flowed, and on passing a probe through this sinus bare bone was discovered. There was no indications of severe disease in the bones of the pelvis, and no signs of mischief in the iliac region; the boy's health was much pulled down, and he was a complete cripple, and likely to remain so all his life, as it was evident that disease existed in the upper part of the femur. An operation of an exploratory character being determined upon, Mr. Walton commenced by making a long incision over the upper part of the femur. By this means he discovered that the head of the bone was lying out of its proper site, in a carious condition, and that the trochanter was also much diseased. The tissues being well cleared away, the saw was applied below the trochanter and all above taken away; the cotyloid cavity was then looked to, and, as was anticipated, not much disease was found; the cartilage even was still found covering nearly all its extent, with the exception of a small portion at the bottom, which was gone, and the subjacent bone carious. This was removed by the gouge; a small part of the rim of the acetabulum was also bare, and was also removed; about four inches of the femur were taken away.

I have continually watched this patient since the operation, and am happy to bear witness to the beneficial effects which have already accrued. He has not suffered in any way from the proceeding; but a marked improvement has already taken place in his condition. The excruciating pain which had tormented him has ceased, he is regaining strength and spirits, and there is only a very moderate discharge from the wound, which has, to a great extent, closed up. The last report I heard of Mr. French's case was that it was doing well. (*Vide Report on Surgery in the present Volume.*)

SECT. IV.—RARE SURGICAL CASES.

ART. 63.—Remarkable Case of general Anchylosis cured by the Application of Cold Water. By Dr. L. FLEURY.

(Condensed from the *Archives Générales*, July 1848; p. 335.)

Madame André, *æt.* 36 years, of a highly nervous temperament, subject to leucorrhœa and occasional erratic rheumatic pains, consulted a physician for the leucorrhœa in 1842, and during five months subsequently employed astringent injections several times daily. In April, 1843, immediately after the use of an injection, she was attacked with a sense of heat and pressure in the head, with nervous symptoms, which returned daily, unless the attention was forcibly diverted. In the beginning of May her gait became unsteady, and she was always in dread of falling forwards, which became so exaggerated, that she could not walk across her room without assistance, and this dread was remarkably increased by the slightest moral emotion. At the end of the month, violent pains occurred in the eyes: opening the eyelids gave great pain; and there was a glutinous secretion from the conjunctiva, the sight being somewhat weakened. In July the eyes got well, with the exception of a slight dimness of sight, but this affection was replaced by violent pains in the temporo-maxillary articulation, which almost prevented mastication. The pain subsided in a few days, but the loss of motion of the jaw remained. In August, very intense, sudden pains, of short duration, were felt in different parts of the body, sometimes in the muscles, sometimes in the articulations, but they were unaccompanied with either redness or swelling. One morning in December, on awaking, violent pain was felt in the heels: in putting the feet to the ground, the sensation of a million pins penetrating the tissues was experienced; and three or four days after this the tibio-tarsal articulations became very painful. In January, 1844, Madame André, who had hitherto taken no medical advice, applied to an empiric, but after five months' treatment, had experienced no relief. By the month of October she was much worse, the tibio-tarsal articulations were swollen and painful; the knees were affected; they were painful, swelled, and irregularly deformed; walking was quite impracticable. Homœopathy was now resorted to, and proved totally useless. In January, 1845, violent pains occurred in the shoulders, elbows, and wrists; their movements were extremely painful, and they became gradually worse, and more limited. Towards the month of August the knees were almost completely deprived of motion, the legs being slightly flexed. In October the vertebral column was attacked, and the patient was obliged to remain constantly in bed. From January to March, 1846, the motions of the vertebral column and the coxo-femoral articulations became more and more painful and limited. In October of this year, Dr. Fleury was consulted.

Present condition.—The patient has not quitted her bed for a year, being incapable of any kind of motion; almost constant dorsal decubitus, and there is consequently a deep eschar over the sacrum; the attendance of two persons is constantly required, and she makes the most piercing cries every time she is moved. The emaciation is extreme, which the patient attributes to the contraction of the jaws, which have prevented her swallowing anything but liquids. But little appetite; habitual and obstinate constipation; skin dry and rough, always arid, and of a dirty grayish colour; face altered; the general habit analogous to that of individuals affected with saturnine cachexia; jaws contracted, so that the lower projects beyond the upper teeth; she can effect only the slightest motion of the inferior maxilla with great pain; the power of raising the shoulders completely abolished; the forearm can be slightly flexed, but extension is incomplete, and pronation and supination entirely null; motions of the wrists abolished; the fingers, in a state of the strongest possible flexion, are fifteen centimetres distant from the palm of the hand; the thighs slightly flexed on the pelvis; the psoas muscles can be felt through the abdominal walls contracted and rigid; motion in the coxo-femoral articulation abolished; the legs strongly flexed, without any power of moving them; the knees so powerfully contracted against each other, that their

internal surface is denuded of skin; all motion in the feet lost; the trunk curved, the vertebral column forming an arc of a circle, with a posterior convexity; and the patient can neither straighten nor bend it. In consequence of the emaciation, the articulations appear very large, but no alteration of size can be made out.

In this deplorable and singular case, my first inquiry was—what could be the cause of the general ankylosis, of which condition there are only two or three cases recorded by Mr. S. Cooper and M. Velpeau; and I then asked what are our therapeutical resources in an affection of so long standing, and so obscure a nature. On the 20th of October Dr. Ricord was called in consultation.

M. Ricord considered that motion was almost entirely abolished in all the articulations, and that it was to be attributed principally, if not exclusively, to muscular contraction of a rheumatic and neuralgic character; advising baths, cataplasms, emollient frictions, and narcotics. The patient rejected these measures, having been so frequently disappointed by them, and expressed a desire that the cold-water cure should be tried, which I consented to.

The treatment was commenced on the 15th of November, and continued for eleven months. I placed an oil-cloth under her, and employed lotions of cold water, applying them rapidly with a large sponge; this was repeated three times a day, five or six minutes each time. The reaction was promoted by two or three woollen coverlets, in which she was wrapped for an hour or two. The first applications were very painful, the cold producing a disagreeable, painful sensation; and reaction was with difficulty established. On the 15th of December, the lotions were borne well, reaction was quick, the skin less dry and rugose, the appetite better, the patient felt stronger. January 15th, 1847. General condition much ameliorated; a better tint; very rarely any spontaneous pains in the joints; no longer the acute suffering on motion. I substituted wrapping in a cloth, wetted and wrung out, covered with two woollen coverlets, the patient remaining enveloped for two or three hours, and when the sweat became established, the free use of the cold-water lotion. February 15. The teeth were no longer closed and projecting; slight motion in the jaw; fingers less rigid; knees may be separated a little; she does not slide down in her bed so much, and sometimes lies on her side; with the assistance of two people she can get out of bed and support herself on two chairs, remaining upright two or three minutes; the trunk is strongly flexed on the pelvis, the thighs on the pelvis, and the legs on the thighs. Wet cloths and lotion were applied in the morning; she was placed upright in a large tub to receive a shower-bath in the day; lotions in the evening. March 1. The patient began to eat solid aliment; the fingers were moved more easily; the knees could be separated further; being placed in an arm-chair, she could remain three or four hours without great pain or fatigue. On the 15th, she got out of bed without assistance; she could soon move about the room, supporting herself on the furniture, always dragging her feet on the floor, in consequence of the immobility of the coxo-femoral articulation; wet cloths in the morning, followed by the shower douche; in the course of the day, and at night, the shower douche; exercise and spontaneous motion as much as possible. On the 25th she could move round the room, supported by two persons; during two or three minutes she remained standing without assistance under the shower douche. In the morning a hot-air bath, followed by a shower douche; in the daytime and evening the shower douche. March 31st. She could walk some steps with the assistance of a stick; the trunk a little straighter; some motion of flexion in the elbows, wrists, and knees. The same treatment.

April 15. The improvement has not progressed so rapidly. I advised her to go to Bellevue.* The treatment was recommenced on the 20th. In the morning the dry-air bath, followed by the shower douche, in her own chamber; at four in the afternoon, she was placed in a chair, and carried to the establishment; she received a general shower douche for five minutes, and a mild douche (mobile) upon the different articulations. May 20th, the patient walked easily, supported on the arms of a domestic, a third of the distance between her residence and the establishment, about 500 steps; the separation of the knees was almost normal; the trunk was manifestly straightened; the bad colour of the skin had entirely dis-

* The site of an hydropathic establishment.

appeared, the tint being clear and animated; appetite good; the body obviously fatter; constipation had ceased. June 20th. The morning, as well as the evening douche, was taken at the establishment. The douches were preceded by forced motion, to which I submitted the scapulo-humoral, humero-cubital, radio-carpal, coxo-femoral, femoro-tibial, and tibio-tarsal articulations. July 20th. The patient had little energy and courage to bear the forced motion, which occasioned acute pain, but was soon relieved by the application of sedative compresses. The sweating process in the morning was suppressed; three douches daily. August 20th. The motions of the limbs are now sufficiently restored for the habitual occupations of life, although the fingers are still bent upon the palm, and the motions of pronation and supination are still constrained; and the feet cannot be sufficiently raised above the ground. On the 20th of September she walked without any assistance whatever. By the 20th of October, motion was not perfectly re-established. But Madame André, who has very little energy, and who dreaded excessively the pain produced by forced movements of the limbs, would not submit to further trials. She remarked—"I am perfectly satisfied with my condition; the motions which I can perform satisfy all the exigencies of my life, and I do not require to purchase greater extent of motion at the price of new sufferings." The treatment was accordingly suspended. On the 1st of June, 1848, Madame André's condition was unchanged.

[The pathologist will doubtless question the propriety of designating this disease "Anchylosis." On the cold-water treatment, vide *Report of Surgery* in the present volume.]

ART. 64.—Remarkable Case of Fracture of Three Vertebra, of the Sternum, and of Three Ribs. By M. BRABANT.

(Condensed from *The Annales et Bulletin de la Société de Médecine de Gand*, and *Gazette Médicale*, April 1848, p. 276.)

A mason, æt. 45, fell from the height of a first floor, upon stones. No one saw him fall, but he was found lying on his face a few minutes afterwards. He complained only of violent pains in the back. The following day M. Verbuck found a deep ecchymosis between the shoulders, with pain, augmented by the slightest motion or pressure; complete paralysis of the inferior extremities, bladder, and rectum, and total loss of sensibility from the middle of the thorax; respiration slow, anxious, difficult, and entirely diaphragmatic; the thoracic parietes immobile, apparently paralysed. It was concluded that he had pressure or dilaceration of the spinal cord from a blow on the dorsal vertebra, and probably fracture. A fracture was also detected of the superior third of the sternum, the inferior fragment riding on the superior. There was no sign of contusion on any part of the chest. It must accordingly be inferred that the sternum, violently bent at the moment of the shock, was broken like a tense cord by the two ends.

Death occurred on the fifth day. The autopsy developed the sternum broken at the articulation of the square portion with the second portion. This solution of continuity may therefore be regarded rather as a separation than as a fracture, since the articular surfaces were not even yet ossified.

There was fracture of the bodies of the second, third, and fourth dorsal vertebra, the fractures proceeding in different directions, but no fragment being displaced. On compressing the fractured portions, a putrid sanies escaped from between the fragments, which were enveloped in a thick detritus of the surrounding soft parts. The three right ribs corresponding to the three broken vertebra were fractured up their posterior angles, evidently produced by the direct blow upon the vertebral column.

ART. 65—*Case of undescribed Congenital Malformation of the Shoulder-joint, simulating Congenital Dislocation.* Communicated by Dr. O. B. BELLINGHAM.

(*Dublin Medical Press*, July 5, 1848.)

[The patient was a labouring man, 58 years of age, admitted into the hospital when suffering from bronchitis.]

In examining his chest, I noticed that his right shoulder and arm presented a very different appearance from the left; the muscles, particularly the deltoid, being atrophied, and the bulk of the arm being one-half that of the opposite limb, in which the muscles were largely developed. The patient could not raise the arm to a right angle with the body, but all the underhand motions were well performed; and he says he could carry heavy bodies in the hand. On being questioned, he said this had been the condition of the arm as long as he could remember: he had never received an injury in the part until two or three years since, when the clavicle on that side was fractured.

On examination, the shoulder-joint presented somewhat the appearance of a congenital dislocation; the acromion process was very prominent, the deltoid muscle scarcely developed, and the arm about half the size of the opposite limb; in every motion of the joint the scapula moved with the humerus, as if ankylosis had taken place; the arm cannot be brought to a right angle with the body; when raised nearly to this point, there is a sudden check to its further elevation. The head of the humerus does not form any prominence in the axilla, nor is there a vacant space between the acromion process and the head of the humerus; and the elbow does not project from the side.

On a post-mortem examination, the supra-spinatus, the infra-spinatus, and the subscapularis muscles were found to be atrophied and converted into fatty matter, similar to what is seen in cases of very old unreduced dislocation, where the muscles had not for many years been called into action. Scarcely any traces of the deltoid muscle existed; the biceps were wasted, as were likewise the other muscles of the arm, but they were not altered in texture. The capsular ligament of the shoulder-joint was very thick, consisting of several layers, which were separated from one another by cellular tissue. At the under surface of this ligament, and apparently forming a part of it, a round, very strong ligament passed from the scapula to the humerus, which became extremely tense when the arm was raised from the side, and rendered it impracticable to bring the arm above a right angle with the body, even when the muscles connected with the joint were removed. The head of the humerus was in contact with the glenoid cavity, and remained in contact with it after the muscles were cut away, and after the capsular ligament had been opened above. The scapula, clavicle, and humerus were small, resembling those of a delicate female rather than of a labouring man. There was no appearance of the clavicle upon that side having ever been fractured.

The condition of the shoulder-joint now described, which there is every reason to believe was congenital, must constitute a very rare form of malformation, as the most recent work upon injuries and diseases in the vicinity of joints, by Mr. Smith, contains no case resembling it.

The original malformation here was undoubtedly in the capsular ligament of the shoulder-joint, the inferior portion of which was condensed, shortened, and converted into a kind of round ligament, which so limited the motions of the arm, that it could not be raised above a right angle with the body;—the muscles employed in raising the arm were never therefore called into action, and their tissue had degenerated; in some, as the supra-spinatus, the infra-spinatus, and the subscapularis, the muscular tissue was converted into a matter resembling fat; while the fibres of the deltoid seemed never to have been developed, so completely was its muscular tissue absent.

The scapula, clavicle, and humerus upon this side, which resembled rather those of a delicate female than of a robust man, were exhibited to the members of the society, and are now in the Museum of the Royal College of Surgeons.

ART. 66.—A Case of Ischio-rectal Abscess, caused by an Injury of the Nates, producing Symptoms resembling those of Dislocation into the Foramen Ovale, and those of Morbus Coxa; with Remarks. By R. P. HOWARD, M.D.

(Condensed from the *British American Journal*, Aug. 1848.)

James S., *æt.* 7 years and nine months, of scrofulous diathesis and slender frame, was in perfect health until Sunday, the 23d April, on which day, when running, he fell on a large stone near the steps of his dwelling, and hurt the left buttock. Soon afterwards he entered the house, appeared "sick" and heavy, complained of "pain in the belly," and lay upon the sofa. He rested well that night, but continued sickly and dull the next day, with the pain in the belly as before. His mother gave him salts and senna, which somewhat relieved him; but he remained heavy, not inclined to play, but disposed to sit and lie. On the 27th instant it was observed, for the first time, that he walked lame, and that one leg seemed to be longer than the other. Having stripped and examined him, his father concluded the "hip to be out of joint." The child now told that he fell on a stone, and injured himself. During the night he complained much of his belly. The following day a practitioner saw the boy, and believing it to be a dislocation, attempted its reduction, but desisted for want of aid and appliances. That night he suffered great pain near the coccyx.

I saw him first on Saturday, the 29th instant, when I noted the following observations: he stands with the left knee advanced in front of the right, the limb abducted, with the foot rather everted, but not much so. No leaning forward and to the left, nor are the psoas and iliacus stretched. Walks without dragging the leg, bends the knee freely, and can support the body on it without pain, though he appears to lean chiefly on the right limb. The spine is not curved, nor is either shoulder obviously depressed. The left limb may be abducted without pain or force, and then seems to be longer than its fellow. No pain on striking the heel or trochanter major; none in front of or behind the capsule of the hip-joint; none on rotating the head of the femur in the acetabulum. Great tenderness on pressing lightly on the left buttock, and here there has been severe pain at intervals during yesterday and last night. The left nates is broader than the right, but not flatter, as if wasted, and the sulcus between it and the thigh not obliterated. The trochanter of this side seems to be lower than the opposite, and the internal condyle of the right knee lies in the fossa, above the internal condyle of the left, thus giving the semblance of lengthening by an inch and a half, though in reality the patellæ of both sides are equidistant from the anterior-superior spinous processes of the pelvis. The head of the femur cannot be felt in the perineum. Decubitus on the affected hip, with the knee flexed; in this position the hamstrings are tense; complete extension is difficult and painful, and the thigh cannot be as much flexed on the pelvis as the right one. Never had pain or stiffness in the knee or hip-joint, nor occasional darting pains down the thigh, aggravated at night, nor did he previously, at any time, feel fatigued after slight exertion.

Skin hot; pulse 114, quick and firm; tongue furred white; appetite trifling since the accident; bowels costive. Ordered a black draught at once, and 2 grs. Dover, with 5 grs. hyd. cum creta three times a day; low diet; fomentation to the hips.

30th inst. As before; much heat about the hip; great tenderness of the left buttock, where the stone struck. On passing the finger up the rectum, I felt a swelling near the body of the left ischium, which was so sensitive that the child roared when I touched it; no motion or displacement effected in this swelling by rotating the limb; no fracture of coccyx, nor of ischium.

Diagnosis.—Abscess forming in the ischio-rectal fossa. Ordered leeches, fomentations, and poultices to the back of the joint and buttock, and to have a tea-spoonful, every two hours, of the following mixture:

R Ant. pot. tart. gr. ij;
Aqueæ, ℥vij.

1st May. As I was indebted to the kindness of Dr. Crawford for the case, I informed him of its progress, and of my diagnosis. He visited the boy with me, and, after a close examination, coincided with the above view.

2d May. Rest much disturbed by the pain, which is increased even by the application of the poultices. Skin warm, but moist; pulse 114, not firm, as before; bowels costive, with much tenesmus; has a slight cough; the left buttock over the tuber ischii is tense, swollen, hot, and conveys to the finger the characteristic sensation of a forming deep-seated abscess. The margin of the anus is tumid, and exquisitely sensitive. Ordered a dose of castor oil, and a poultice of hops.

3d May. The irritability of the rectum persists. The left side of the anus, and a margin of about one inch of the perineum, on the same side, are of a crimson colour—œdematous—and present the appearance as if the abscess would point near the sphincter. The cough increased; pulse 112, small. The powders and mixture to be stopped, and the following substituted:

R. Vini ipecac., ʒij;
Spt. ætheris nitrosi, ʒiij;
Tinct. hyos., ʒi;
Aqua, ʒv ʒij;

ʒss to be taken every two hours.

A suppository of gr. $\frac{1}{2}$ opium at bedtime, and a warm bath.

4th May. Rested better; had a rigor last night; appeared easier this morning; skin hot and moist; pulse 120, small; irritability of the rectum continues; cough looser. Ordered the evacuations to be examined for matter.

5th May. The abscess opened last night while at stool, and much healthy pus escaped with the fæces, giving immediate relief. The skin now is cool and moist; pulse 87; bowels yet irritable; the swelling about the anus subsiding; the pain gone; no stiffness of the joint; stands erect, with both feet together and walks without limp or pain. The orifice by which the pus escaped situated about one inch within the rectum.

13th May. The boy is well, and no signs remain about the nates of the recent injury. He walks naturally. The orifice in the rectum not to be felt.

I saw the boy on the 26th of this month. He is perfectly well, and used the left limb as well as the right.

REMARKS.

This case is interesting in several particulars; but chiefly as it exhibits the possibility of an injury near the hip-joint terminating in an abscess, producing symptoms, at first sight, resembling much those of dislocation into the foramen ovale, and not a little those of morbus coxae, in its early stages; yet establishing a clear diagnosis between these several affections. For the sake of perspicuity, I will arrange the points of dissimilarity and resemblance, which are the most striking, in opposing columns.

A. POINTS OF DISSIMILARITY BETWEEN:

Ischio-rectal abscess.

1. Produced by a violent fall on the nates.
2. Lameness not observed till four days after the accident.
3. Abduction of the limb easy and painless.
4. Toes and heel rested on the floor.
5. Apparent lengthening of $1\frac{1}{2}$ inches.
6. Apparent depression of trochanter major.
7. In the erect posture, no bending forwards, nor were the psoas and iliacus stretched so as to form a tense ridge, sensible to sight and touch.

Dislocation into the foramen ovale.

1. Produced by a weight falling on the pelvis, while the trunk is bent forward, and the thighs are separated from each other.
2. Lameness observed immediately after the accident.
3. Abduction of the limb difficult and painful.
4. Toes rest on the floor, heel usually off the floor.
5. Real lengthening from $1\frac{1}{2}$ to 2 inches.
6. Real depression of trochanter major.
7. In the erect posture, trunk bent forwards, and the stretched psoas and iliacus form a tense ridge on the side of the thigh, sensible to sight and touch.

8. Head of the femur not felt in the perineum, though a boy of "slender frame," and no swelling.

8. Head of the femur felt in the perineum, only in thin patients, and in the absence of swelling.

The progress, mode of treatment, and the result in this case were so manifestly opposite to what they would be in the dislocation, that it is needless to contrast them.

B. POINTS OF RESEMBLANCE.

Ischio-rectal abscess.

1. The limb advanced and abducted.
2. Toes slightly everted.
3. Complete extension and flexion difficult and painful.
4. Hamstrings tense, and knee somewhat flexed.

Dislocation into the foramen ovale.

1. The limb advanced and abducted.
2. Toes everted in some cases.
3. Complete extension and flexion difficult and painful.
4. Hamstrings tense, and knee somewhat flexed.

A. POINTS OF DISSIMILARITY BETWEEN:—

Ischio-rectal abscess.

1. Stiffness of the limb, &c., sense of fatigue and weakness after slight exertion, were not complained of for some time previous to the lameness.
2. No pain at any time in the knee, nor down the thigh.
3. No pain in the hip itself, but seated near the tuber ischii.
4. Does not drag the limb when walking, but bends the knee freely.
5. Rests on the sole of the foot, and can bear the weight of the body on the affected limb.
6. Decubitus on the affected side.
7. The affected limb not different in appearance from its fellow.
8. The affected nates not wasted, nor the sulcus between it and the thigh at all effaced.
9. No real lengthening.
10. No pain in the hip or knee produced by striking the heel or trochanter major, nor by rotation of the limb.
11. Neither pain in front of, nor behind, the ileo-femoral capsule.
12. A very brief period elapsed, accompanied with acute pain, but little constitutional deterioration before suppuration and subsequent relief resulted.
13. The cure after suppuration rapid and perfect.

Morbus coxæ.

1. Stiffness of the limb, and a sense of fatigue and weakness after slight exertion, complained of for some time previous to the lameness.
2. Pain in the knee, and occasional darting pains down the thigh; generally worse at night.
3. Pain in the affected hip occasionally.
4. Drags the limb when walking, and carries the limb straight, as if there were no joint in the knee.
5. Rests on the toes and ball of the foot, and cannot bear the weight of the body on the affected limb.
6. Decubitus on the back or unaffected side.
7. The affected limb is found decidedly thinner, softer, and more shrunk than the other.
8. The nates of the affected side wasted, and the sulcus between it and the thigh more or less effaced.
9. Real lengthening.
10. Pain in the hip or knee produced by striking the heel or trochanter major, and by rotating the limb.
11. Pain in front of and behind the ileo-femoral capsule.
12. A protracted period elapses, accompanied with great increase of suffering and constitutional deterioration, before suppuration and subsequent relief result.
13. The cure after suppuration, when it does occur, is tedious, and at best imperfect.

B. POINTS OF RESEMBLANCE.

Ischio-rectal abscess.

1. Occurred in a youth of strumous habit, connected with external injury as its exciting cause.
2. Stands with the affected limb somewhat advanced, and leans but lightly on it; the foot is slightly everted.
3. Apparent lengthening of the affected limb.
4. Knee of affected limb sound.
5. Nates of left hip somewhat broader than its fellow.
6. The left limb cannot be as much flexed on the pelvis as the other.

Morbus coxae.

1. Occurs in youths of strumous habit; it may (or may not) be connected with external injury as its exciting cause.
2. Stands with the affected limb somewhat advanced, and leans but lightly on it; foot is generally everted.
3. Apparent lengthening of the affected limb in the early stage.
4. Knee of affected limb generally sound.
5. Nates of affected hip broader than its fellow.
6. The diseased limb cannot be as much flexed on the pelvis as the other.

The abduction of the left limb, and the slight eversion of the foot, seem fully accounted for by the inflicted injury exciting the *gluteus maximus*, the *gemelli*, the *pyriformis*, and *obturator-externus*, to spastic action. Besides, this position would most relieve the pain resulting from inflammation, and its effects—effusion of serum, lymph, and pus. The apparent lengthening is explained by the circumstance that the patient rested chiefly on the sound limb, and advanced the other (which was also abducted) so as to steady the body; thus the pelvis necessarily followed the movement of the limb, and its transverse axis, which normally forms a right angle with the spine, now formed an oblique angle, and the limb would appear lengthened according to the obliquity of the angle. The tenseness of the hamstrings, and consequent flexion of the legs, were doubtless owing to the irritation seated at the origin of the *biceps*, *semi-membranosus* and *semi-tendinosus* muscles having been propagated to them, and exciting a spastic state of these; hence the difficulty and pain caused by complete extension and flexion of the limb. The breadth of the left buttock and its fulness were owing to the inflammation which extended towards the mesian line.

PART III.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

SECT. I.—MIDWIFERY AND DISEASES OF WOMEN.

ART. 67.—*On certain Displacements of the Unimpregnated Uterus.* By JOSEPH BELL, Member of the Faculty of Physicians and Surgeons; Glasgow.

(*Monthly Journal*, Sept., 1848.)

[THE displacements considered by the author in this paper are “retroversion,” “anteversion,” “retroflexion,” and “anteflexion.” Of the symptoms, causes, and diagnosis, as laid down by him, we do not think it necessary to give any account, inas-much as his remarks do not in any respect differ from those already given by Drs. Simpson, Protheroe Smith, and others, whose communications on the same subject have appeared in our former Volumes. Of the treatment the author speaks as follows:]

The treatment of these displacements may be divided into two parts: 1st, the medical; 2d, the mechanical.

1. *Medical treatment.* It must appear self-evident, that when either enlargement or inflammation of the uterus exists, these conditions must be removed before we can expect to cure the patient.

It may be said that the enlargement and inflammation are the results of the malposition and not the cause, and that, consequently, it would be more rational to replace the uterus, and afterwards treat the effects. In answer to this I would submit the following observations:—1st. The relation assumed does not always exist; indeed I think it very rarely happens. 2d. Though you can replace the uterus, it will soon relapse into its abnormal position, unless the enlarged condition be removed. 3d. The uterus frequently cannot be restored to its proper place until it has been reduced in size. 4th. By removing congestion and hypertrophy, the organ will frequently, either spontaneously resume its natural site, or pregnancy occurs, and, subsequent to parturition, no relapse takes place. 5th. When you have reduced the hypertrophied condition, if the uterus does not, unassisted, resume its natural site, manual interference will then be more successful. Hence, in a practical point of view, it is of very little importance, whether congestion and inflammation have preceded or followed the displacement.

[Judging from his own experience, the author states that when judicious means are adopted in conformity with the principles above enunciated, few cases will require mechanical assistance. The following is an outline of the treatment which he has found most efficacious.]

1. Confinement to the recumbent position. Exercise not only causes an aggravation of the patient's sufferings, but protracts recovery.

2. Regular action of the bowels is of paramount importance. A loaded colon, by its pressure, increases the extent of the misplacement, and the passage of hardened fæces causes considerable irritation and congestion, both of the uterus and rectum. The laxative found most useful is either olive oil or an electuary of sulphur, cream of tartar, and molasses. Enemata generally prove injurious.

3. Local depletion is of great use, especially when there is much tenderness of the uterus, or severe pain about the loins. The application of a few leeches to the vulva or os uteri, once or twice a week, will be most beneficial.

4. *Mercury*. When the uterus is much enlarged and indurated, my chief reliance has been upon mercurials. At one time I generally prescribed hyd. c. creta. I now prefer the iodide of mercury in half-grain doses every eight hours. In my hands this has been most beneficial in reducing the size of the uterus. After mercurial action has been established, I find benefit from the iodide of potassium in a vegetable bitter infusion.

By this method of treatment the enlargement and inflammatory action of the uterus rapidly subsides, and the organ resumes, in many cases spontaneously, its natural position. . . . Improvement of the general health is of the utmost importance in the treatment of displacements of the uterus. Profuse menstruation must be checked, the action of the stomach, liver, &c., promoted. If the vagina be relaxed, the alum hip-bath will be useful.

II. *Mechanical treatment*. This may be divided into manual and instrumental. Several authors recommend the uterus to be replaced by the hand introduced into the vagina and rectum. With regard to the use of instruments, I can say little from personal experience. Various kinds of pessaries have been proposed, none more ingenious than that by Professor Simpson.

These, and especially the latter, may be serviceable in retroversion; but I doubt their efficacy in anteversion, and in flexions of the womb. I should be afraid that the presence of these instruments would cause inflammatory action. It is but justice, however, to state that Desormeaux and others consider that the irritation caused by common pessaries tends to cure enlargement of the uterus, by increasing the action of the absorbents. If this be true, Simpson's instrument (see 'Abstract,' Vol. VII, p. 261,) may prove useful in two ways, viz.: by removing hypertrophy, and maintaining the uterus in its proper place. The sponge pessary I have often introduced after the uterus has regained its normal size. I have never found its use to be required beyond a few weeks.

[The author, in conclusion, alludes to an article on the same subject, which we have reproduced in a former volume, and illustrates his mode of treatment by several cases.]

ART. 68.—*On the Diagnosis and Treatment of Retroflexion of the Womb*. By T. SAFFORD LEE, M.R.C.S.

(*Medical Gazette*, June 29, 1848.)

[The accompanying abstract forms part of a long communication which embraces all the points connected with the pathological history of this displacement. We, however, abstain from reproducing the symptomatology of this affection, as well as some other portions of the essay, for the reason given in the preceding article. The affections with which retroflexion may be confounded are thus spoken of:]

1. *Diagnosis*.—*Retroflexion may be confounded with retroversion of the womb*. In retroflexion, the os uteri looks downwards and a little forwards towards the outlet of the vagina; the cervix uteri can be traced perpendicularly upwards to a certain distance, and then it will be found to pass abruptly backwards, terminating in a painful tumour between the vagina and rectum. This position of the uterus can be fully verified by the introduction of the sound, which passes easily backwards into the tumour posteriorly, where it may be felt through the vagina.

In retroversion of the womb, there are several of the same characters observable as in retroflexion. The uterus is felt passing backwards into the recto-vaginal space, while the os uteri is drawn considerably upwards behind the pubes, producing retention of urine. Therefore, the position of the os uteri, and the effects produced by it, with the fact that retroversion occurs generally in pregnancy, sufficiently distinguish the latter from the former disease.

2. *It may be mistaken for an ovarian tumour, and is very often accompanied by one*. The ovary of one or both sides is frequently found to become enlarged, either by distension from engorgement, chronic inflammation, or cystic development; either of these states may produce a tumour between the rectum and vagina,

and some exactly assimilate retroflexion of the womb—the enlarged ovary being mistaken for the fundus uteri. I have seen several mistakes arise from this cause. The indication under such circumstances is to endeavour to distinguish between the two, in order that proper treatment may be applied. Where the ovary is diseased, it can be ascertained by the introduction of the uterine sound into the cavity of the uterus, which may be placed in its natural position; and by moving the uterus cautiously, it will be found to have no connexion with the tumour which had been previously felt.

A singular case of this kind came under my notice. I found, on examination, a body which at first I mistook for the anterior lip of the uterus, very much elongated, but which proved to be the whole uterus pushed downwards and forwards into the anterior portion of the vagina, and nearly protruding from the vulva. Immediately behind this body a hard tumour was felt, and it was supposed that retroflexion of the fundus existed. I was unable to find the os uteri between this body and the tumour posteriorly. It then struck me, on examining more carefully the body in the vagina, that it had the feeling of the uterus. I could find, however, no os uteri; but after drawing the finger over its lower part, I observed a slight depression, to which I applied the uterine sound, which ultimately passed into the cavity of the womb. This at once threw considerable light upon a very uncommon displacement. After we had thus found out the character of the tumour in the vagina, the posterior one was easily distinguished; for by drawing the uterus forwards by the uterine sound, it was found to be unattached to that body, and that its movements were quite independent of it, proving most assuredly that it was an enlarged ovarian tumour, and that it had caused the uterine displacement.

3. *Retroflexion of the uterus may be mistaken for a fibrous tumour of the posterior wall of the uterus.* A gentleman requested me to see a patient whom he supposed to be labouring under retroflexion of the womb. On the first examination of the patient, it very much resembled a displacement of that character. The os uteri was placed forwards, and looking downwards, and immediately behind the cervix was a tumour of rather large size, very painful to pressure, and presented, between the cervix and the tumour, apparently the “curve” which connected them. All these symptoms favoured the idea that it was retroflexion of the fundus; but, on examination with the uterine sound, the uterine canal was found directed forwards, and merely connected with the tumour posteriorly, which was of fibrous character and imbedded in the posterior wall of the uterus.

II. *Prognosis of the retroflexion of the fundus.* The difficulty of treating this disease exists in its liability to return. The patient may be relieved of her pain while the uterus is kept in its natural position by mechanical support; but take that away, and there is great risk of its returning to the flexed position. Many, however, do not, but are perfectly cured. There is no danger to life with this disease; but if it continues, the pains felt in the pelvis, aggravated periodically with the menstrual periods, affect the general health, and produce disease.

1. *The effects produced by the flexion of the womb.* The first, as has been well pointed out by Dr. Rigby, is sterility. The constriction of the cervix prevents the admission of the semen into the cavity of the womb, and thus becomes a mechanical hinderance to conception. I have observed many patients who have laboured under retroflexion of the fundus for many years, and during that period have never been pregnant, but have become so quickly after the uterus has been replaced. In one instance, a married woman, who had suffered from flexion of the uterus after a former labour, and who formerly conceived very quickly after her previous confinements, remained barren during the existence of the disease, and continued so until it was cured; after which she again became pregnant, and was delivered of a full-grown child.

2. *Retroflexion of the uterus induces engorgement and chronic inflammation of the ovaries, more especially in the left one.* Dr. Rigby,* who first described this complication, states that in thirteen cases the fundus was flexed towards the left in nine: one was towards the right; the other two backwards, or not observed. The fundus, from its position backwards, presses upon and irritates these organs, producing chronic inflammation, and deranged discharge, and in these cases usually there is membranous dysmenorrhœa.

* Med. Times, Dr. Rigby's Reports.

3. *Retroflexion of the uterus produces engorgement of the neck of the womb, which is often followed by slight ulcerations.* These are not frequently extensive, but are confined principally to that portion of the labia which surrounds the orifice of the womb. By the speculum, the ulceration can be seen to be small, and scattered over the surface within and about the lips of the cervix. These disappear after the replacement of the fundus; but, if numerous or large, they require treatment before other means are applied. Dr. Beatty, in the 'Dublin Journal,' for Nov. 1, 1847, gives three interesting cases, in which, by the treatment of the ulceration, he succeeded in curing the retroflexion.

III. *Treatment.* In the treatment of the retroflected womb, several circumstances may demand attention—as to the state of the patient, the period of the existence of the disease, and the greater or less amount of flexion of the uterus itself.

The virgin and the married woman suffer differently under this affection; the one presenting its symptoms without much irritation, while the other gives evidence of considerable disturbance. A knowledge of the period during which the disease had existed aids the diagnosis, and renders the prognosis favorable; and those cases which have received treatment quickly after the disease had commenced derive greater benefit from it than those which have been neglected.

The state of torsion varies considerably in different cases: in some the fundus is merely thrown backwards, while in others it is completely flexed upon the cervix uteri; and, lastly, the state of the bowels and the general health are all-important considerations in this disease.

When the fundus is partially retroflected the symptoms are slight, and the replacement of the womb may be attained by its own natural efforts, aided by depletion and position. The cases I have reported are evidences of that fact, and those detailed by Dr. Beatty corroborate the same statement. But although this treatment has been successful in some cases, there are others which remain in the reflected state after it has been fully applied, and require other and more efficient means.

The severe cases of retroflexion very seldom admit of the return of the womb to its natural position without the assistance of mechanical apparatus; and, although the preliminary means may be used with benefit in reducing the engorgement of the womb, the mechanical ones have been found to be most effectual in altering its position. The best mode of applying mechanical support to the uterus is by the use of an instrument proposed by Professor Simpson.

[Of this instrument we have given a full description, together with an illustration, in our last Volume (page 261), and we, therefore, omit the author's remarks on the subject, excepting such as refer to its mode of application, which are more fully descriptive than have been before given. These are as follows:]

The angular form of the supporter described presents considerable difficulty in introducing it into the uterus, and the small space for manipulation in the vagina adds considerably to it; so that in no case is it an easy operation. The patient should be placed on the left side, with the knees drawn quite upwards. In this position she must be placed on the edge of the bed, and the instrument applied. After having inserted a handle into the vaginal sheath of the uterine portion of the supporter, it is to be introduced into the vagina, with its angular space looking towards the sacrum, the point to be directed to the os uteri, in the *abnormal position of the uterus*. The right hand should now press on the perineum, and as far as possible enlarge the opening of the vagina, in order to allow the passage of the bulb into the vaginal canal; the point of the instrument will then be directed into the canal of the cervix. When this part of the operation is accomplished, the finger should be applied to the tumour posteriorly, and pushed gradually upwards, in order to relax the constriction of the cervix: the supporter then passes to its full extent. With a little manipulation it is turned forwards, and the operation is completed; the tapes are tied, and the patient put to bed. The introduction of the supporter presents considerable difficulties: the patient most frequently complains of greater pain when the bulb is passing into the vagina than at any other portion of the operation; and in some cases the opening is so small that the operator is obliged to suspend its introduction until the orifice of the canal is more dilated. After this difficulty has been overcome, the canal of the cervix presents

another of more frequent occurrence; the surface of it is so irregular, from its flexed state, that the supporter is unable to pass, and its contraction where the fundus is flexed upon the cervix is so small that it resists the entrance of the supporter. Under these circumstances, the "dilator" ought to be used to enlarge the orifice, and repeated several times before another attempt is made. There is usually pain on replacing the uterus; and, while being reduced, there is danger of the fundus coming in contact with the promontory of the sacrum. To avoid this, the uterus should be pulled down into the vagina, and the pain will be trifling.

Before applying the supporter itself, the uterine sound should be used, in order to reduce the swelling and engorgement of the cervix uteri, and to accustom the womb to the presence of a foreign body. When the supporter has been applied for some time, examination ascertains that the induration and swelling of the cervix have almost entirely disappeared; that the uterine tissue felt between the finger and supporter is thin and healthy; and the ulcerations, if any exist, require no treatment, and usually disappear. For a few days the patient should remain in bed, and lie as much as possible in the prone position, avoiding all irritation, and even afterwards take but moderate exercise. If the instrument is borne well, the disease will most probably be permanently cured by its assistance. The patient will be enabled to walk with ease, and attend to the ordinary duties of life. Ladies who have had the supporter applied have travelled great distances, and poor people have returned to labour for their families, who were entirely unable to do so before the supporter was applied.

In the favorable cases we have referred to, no pain or irritation exists, and a cure of the disease is generally the result. But there are other cases in which the uterus will not bear the irritation of a foreign body in its cavity, and it produces sometimes serious results. The patient, after a few days, begins to feel pain over the pubes, extending to the abdomen, which soon becomes tympanitic; the bowels are usually very much relaxed; diarrhœa is produced, and an offensive matter, accompanied by shreds of membrane, is copiously discharged. The tongue becomes furred and dry; the countenance sinks, and becomes anxious; the skin is dry; and all the appearance of an irritative fever is the result. On examination, the vagina is found hot: the instrument gives great pain on being moved, and ought at once to be removed. After this has been done, the symptoms decrease somewhat, but are to be treated usually by the application of heat, aided by that of a few leeches to the abdomen, warm vaginal injections, and attention to the bowels. These remedies soon restore the patient to health, but the uterus is afterwards found to be retroflected. I have never seen a more serious result arising from the general excitement of the system than the temporary symptoms themselves; and I have applied the instrument a second time, at a future period, without pain, and a successful issue.

In all cases in which the supporter is used, the patients suffer some pain at their menstrual periods, and in each case I have observed that the discharge was always profuse, lasting also longer than its usual period. After the discharge ceases, the pain becomes less, and the patient resumes her usual health. When the instrument has been withdrawn, and the retroflexion cured, the catamenia appear without pain; and, after many inquiries, I find that the discharge is not profuse, but of its ordinary quantity, at successive periods. In some cases where the instrument is worn, it produces considerable pain in the groins and hips. This happens about ten or twelve days after its introduction, and depends upon the lower portion of the cervix having encircled the bulb of the instrument. On examination the cervix will be found to have passed over the bulb, and grasped it firmly. This is to be replaced, and the pains will cease.

Frequently the instrument requires its position to be altered: it may be too much forwards, and irritate the bladder; or too much backwards, and interfere with the rectum: or the bulb may be too low in the vagina. These misplacements give a good deal of pain, and require to be rectified. They generally arise from the patient allowing the back tapes to be too much loosened. The period the supporter ought to be retained, in order to be effectual, varies considerably—from a month to six months, or to a year. If it is borne well, the longer it is retained the better; but this depends upon circumstances. If the instrument can be introduced easily, and its effects on the uterus are slight, a

month has been sufficient to remedy the retroflexion; but if it is with difficulty introduced, and the flexion of the uterus be considerable, the longer the time the instrument is retained the better. The usual period in those cases which have come under my care varies from two to four months; but I have one now under treatment who has had the instrument applied for five months, and she states that it gives her such relief that she intends to retain it for some time longer. I have heard of another case where it was retained in the uterus for more than a year, and the patient dying of a different disease, was examined. After death, the uterus was found to be healthy—still, however, retaining the instrument. Of twelve cases to which I can refer, which were cured after treatment by the supporter, I find that four of them had the instrument applied for one month, four for two months, two for three months, one for four months, and one for five months.

During the application of the supporter astringent lotions should be applied to the vagina, which is at first greatly relaxed, but soon regains its contractile power, and is much smaller at the end of the treatment, when it becomes able to support the uterus itself more effectually.

After the supporter has been removed, the bowels should be frequently relieved by the use of purgative medicines; and by thus keeping the rectum free, the cure may become permanent. It is very important also to favour the replacement of the uterus by the patient retaining the prone position, which is best effected by an angular couch, which has been used and recommended by Dr. Rigby, where the patient can use the prone position, and still amuse herself with either reading or working.

On reviewing the foregoing observations, we have come to the following conclusions:

1st. That retroflexion of the uterus is much more common than it has hitherto been supposed to be by the profession.

2d. That the disease may exist without causing any marked symptoms.

3d. That the disease, being known to exist, may disappear without treatment.

4th. That the disease may be cured by depleting means, accompanied by the replacement of the womb by the uterine sound.

5th. That the uterine sound, which was introduced to the profession by Professor Simpson, is a very valuable instrument in the diagnosis of the disease.

6th. That protrusions of the rectum, and great agony on passing a motion, usually depend upon the retroflexion of the uterus, and are cured on its replacement.

7th. That the disease produces considerable hysterical symptoms both in the virgin and married state, which are entirely removed after treatment.

8th. That retroflexion produces, and is the cause of dysmenorrhœa—

a. By the expulsive pains in many cases caused by the exertions of the uterus to expel the catamenial discharge from its cavity.

b. By producing pressure and irritation in the ovary, the discharge becomes accompanied with shreds and membranous exudations.

9th. That Professor Simpson's supporter, in the treatment of this disease, produces the happiest effects, in entirely removing the local symptoms; and, in the majority of cases, produces a cure; but it must be remembered that in some cases the uterus will not allow of the irritation of a foreign body, which must then be removed, and other treatment substituted; and, lastly, that the instrument may be retained for a considerable time—for months—without giving any pain or uneasiness to the patient; and yet, on its withdrawal, the uterus may return to its retroflected state.

ART. 69.—On Inflammation and Abscess of the Uterine Appendages in the Non-puerperal state. By HENRY BENNET, M.D.

(*Lancet*.)

[The author premises his paper by an historical notice of the affection, commencing with the earliest writers, and also with an anatomical description of the parts engaged, of neither of which is it necessary to make further mention. He

then proceeds to describe the seat, causes, symptoms, and progress of the disease, as follows:]

Seat. Inflammation occurring in the region which I have described may attack the cellular tissue alone, in which case it is a purely phlegmonous inflammation, or the ovaries alone, or the Fallopian tubes alone; or it may attack all together. In either case, the peritoneum itself may or may not be compromised. Owing to the anatomical localization of these organs, to their lying in the same anatomical region, and their having the same anatomical relations, the symptoms and history of inflammation in them are so similar that it would be difficult if not impossible, and certainly useless, to attempt to describe inflammation in each separately. I shall, therefore, treat generally of inflammation in this region, pointing out, as I proceed, any difference which may exist, and which is really susceptible of being appreciated.

The peritoneal folds themselves are very seldom attacked in non-puerperal inflammation of the uterine appendages. When inflammation occurs in this region, *after* parturition, there is a great tendency in the peritoneal membrane to take on the inflammatory action, as is the case when the uterus itself is then the seat of inflammation. In the unimpregnated non-puerperal condition, on the contrary, there is very little tendency to inflammation in the peritoneum, and the organs contained between its folds may remain inflamed during months or years without its being compromised. This is a singular pathological fact, but one which is equally true when applied to inflammatory affections external to the peritoneum in any other point of the pelvic and abdominal cavities. Even when peritonitis does complicate the attack in the non-puerperal state, it seems rather to have a tendency to localize than to extend its action, the contrary to which obtains in the puerperal condition.

In non-puerperal inflammation of the lateral ligaments, the disease is very evidently limited, in most instances, to the cellular tissue and to the organs contained within them, and does not extend to the free cellular tissue of the pelvic cavity. This circumstance induces me to think that in the puerperal form the disease is, generally speaking, similarly limited at first, although such is not the prevailing opinion.

Causes. The causes of inflammation of the lateral ligaments in the non-puerperal state are the same as those of acute metritis. Any physiological or pathological action which is calculated to exaggerate the vitality or to arrest the functions of the uterine system, may be followed by this form of inflammation. Inflammation may attack the lateral ligaments directly or indirectly; directly when they are primarily affected—indirectly, when the uterus is first inflamed, and the inflammation extends from it to the ligaments. The cellular tissue is evidently much the most frequently the seat of the disease, as might be anticipated. The cause which, in the very great majority of cases, gives rise to the inflammatory attack is arrested menstruation. I have also repeatedly seen it manifest itself in persons labouring under chronic inflammation and ulceration of the cervix. In two or three instances I have known it to follow a severe fall. Even in these cases, however, the appearance of the inflammation of the uterine appendages generally takes place in connexion with menstruation.

Symptoms. The symptoms of inflammation of the uterine appendages are, at first sight, very similar to those of acute metritis. There are the same general febrile symptoms, the same severe pains in the lower hypogastric region, and, on attempting to walk or to stretch the body in the erect posture, the same abdominal tenderness and sensation of weight deep in the pelvis, the same vesical irritation and difficulty in defecation. On closer inspection, however, we may appreciate some dissimilarities. The pain is greatest at a little distance from the median line, in the right or left ovarian region, more frequently in the latter. If the patient can bear pressure, and the abdominal parietes are not too thick or too rigid, a deep-seated swelling or tumour is frequently perceived in the ovarian or iliac region. Sometimes the tumefaction is perceptible to the eye from the first. The presence, however, of these symptoms is seldom sufficiently conclusive to enable the practitioner to distinguish inflammation of the lateral ligaments from acute metritis.

In order to clear up the doubt that otherwise must necessarily remain respect-

ing the true nature of the disease, it is indispensable that a careful digital examination should be made. This is, in my opinion, effected most satisfactorily, the patient lying on her back, the knees elevated or flexed. The forefinger being introduced into the vagina, the elbow should be depressed, so that in penetrating it may adapt itself to the axis of the pelvis. The pulp of the finger may thus be carried underneath and round the cervix, which should be carefully and accurately examined. By then pushing back with the finger the cul-de-sac of the vagina, where it is inserted on the cervix, the state of the body of the uterus, of the adjoining uterine organs, and of the pelvic cavity generally, may be ascertained with extreme accuracy, especially if the left hand is applied at the same time over the lower hypogastric region above the pubis.

When this mode of examination is adopted in the healthy female, the bladder being previously emptied, the finger may push the vaginal cul-de-sac before it on the side of the uterus for an inch or two, and may be made to approximate within a very slight distance of the hand applied externally, and that without giving the slightest pain. The practitioner feels, with the greatest distinctness, that his fingers are only separated from each other by the thickness of the abdominal parietes, and by tissues (the lateral ligaments) which present no density or resistance. When the tissues contained in the lateral ligaments, cellular tissue, ovaries, or Fallopian tubes, are inflamed, thickened, and indurated, the state of things is very different. On attempting to push back the vagina on the side of the uterus we find an unusual resistance. The vaginal cul-de-sac has disappeared, and resting on the side of the cervix and body of the uterus there is an indurated swelling, very different from what obtains on the other or healthy side, supposing disease to exist on one side only, as is most frequently the case. Pressure on the indurated tissues is attended with very great pain, and there is a marked increase of the natural heat of the parts. On carrying the finger behind the inflamed tissues, whilst the abdomen is gently depressed with the left hand, we ascertain that the inflammatory tumour, situated between the hands thus placed, is movable and quite distinct from the parietes of the pelvic cavity. This tumour is generally applied, as it were, to the side of the uterus, so that it only constitutes one mass with that organ. Thence it is, no doubt, that inflammation in the lateral ligaments is generally confounded with metritis, even when a digital examination is resorted to, and the presence of an inflammatory swelling recognised.

If, notwithstanding a careful vaginal examination, there are doubts as to the nature and extent of the swelling, the uterus and annexed organs may also be examined with benefit digitally, through the rectum.

Progress and termination.—Acute metritis, in the non-puerperal state, generally ends by resolution or by passing into the chronic stage; suppuration is a comparatively rare event, owing to the very small quantity of cellular tissue existing in the structure of the uterus. Inflammation in the lateral ligaments, on the contrary, generally ends in suppuration. It is, in reality, in most cases, a purely phlegmonous inflammation; and the great tendency of phlegmonous inflammation to terminate by suppuration is an axiom in pathology. Although much less liable to end in suppuration than inflammation of the cellular element, ovaritis is also more frequently followed by suppuration than acute metritis. Suppuration may, consequently, be looked for in the course of a few days from the onset of the inflammation, unless the latter has been checked by early and energetic treatment. A prepared and attentive observer may recognise suppuration having taken place by rigors and other symptoms that accompany internal suppurations, by the full that follows in the general and local symptoms, and sometimes by a deep-seated sensation of fluctuation perceived through the vaginal or even through the abdominal parietes.

Once the pus has formed, being closely confined in the region which has been described, if it is not absorbed, as is sometimes, although rarely the case, it endeavours to find a vent. Adhesive inflammation connects the phlegmonous tumour with the vagina, rectum, abdominal parietes, or bladder; and in the course of a variable period, but generally before the acute inflammatory symptoms have subsided, the pus finds an exit in one or more of these directions. It is almost invariably by the upper portion of the vagina, or by the rectum, that the pus escapes in the non-puerperal form of inflammation. I can scarcely recall to mind an instance in which I have seen the pus make its way through the abdominal parietes

in non-puerperal inflammation, except in a case or two in which there was a serious and permanent cause of disease in the uterine appendages, such as suppurated tubercles. When, however, this is the case, it is only after the inflammatory action has lasted for weeks, or even months, that the pus reaches and perforates the abdominal integuments; and nearly always long before the external perforation takes place it has found its way out of the pelvis through the vagina or rectum. The emptying of the abscess into the bladder is of still less frequent occurrence, and is, likewise, generally preceded by the formation of a vaginal or rectal opening. Sometimes the abscess will open into all these directions successively. In some instances the pus appears to escape from the neck of the uterus, as if the abscess had emptied itself into the cavity of that organ. I think, however, that when this is the case the real explanation is, that the phlegmonous tumour of the uterine appendages is complicated with metritis; and that an abscess, formed in the walls of the uterus, has thus opened into the cavity of the organ. An abscess primitively formed in the lateral ligament would be scarcely likely to work its way through the thick unyielding wall of the uterus; at least not unless the uterus participated in the inflammatory action.

Generally speaking, as I have stated, the abscess opens into the vagina or rectum, or into both. That such should be the case is at once accounted for when we consider the position of the phlegmonous tumour with reference to these organs, with which it is in immediate contact. The perforation mostly occurs during some exertion, such as a fit of coughing, or the act of defecation, and in so latent a manner that it is not perceived or mentioned by the patient, unless her attention is previously directed to the point by her medical attendant. This, however, is seldom the case in non-puerperal abscesses, as he is not himself aware of the nature of the disease, and believes his patient to be merely labouring under metritis. The passage of even a considerable quantity of pus from the vagina is generally thought by the patient to be only an increased flow of the whites; and the escape of pus along with the feces is still less likely to attract her attention. Women, from a natural feeling of delicacy, require to be closely questioned with regard to uterine symptoms, seldom giving any information respecting themselves spontaneously. Sometimes the perforation is accompanied by a bursting sensation, of which the patient is perfectly sensible. It may take place within a few days of the onset of the inflammation, or it may be weeks before it occurs. The quantity of pus passed varies from a few drachms to half a pint, or more.

It is owing, no doubt, to the formation and escape of the purulent collection from the cavity of the pelvis thus taking place in so insidious and latent a manner, that unless carefully looked for, it is neither perceived by the patient nor her medical attendant, that these cases have hitherto been generally overlooked, and that the more severe forms and instances of the disease have alone been recognised and recorded.

The escape of the pus through the vagina is the most favourable manner by which it can make its way externally. Its presence, no doubt, occasions a certain amount of irritation of the mucous surface over which it passes, but that irritation is scarcely ever considerable. The next most favorable termination is the penetration of the pus into the rectum. When this occurs there is generally great irritation of the intestinal mucous membrane. Either the ulcerative inflammation of the coats of the rectum, or the presence of the pus, seems to be attended, in most instances, by a considerable degree of dysenteric irritation of the lower bowel, which sometimes lasts several days. In both cases the openings by which the pus penetrates into the rectum and vagina are generally small. In the vagina we cannot frequently detect the precise spot at which the pus has perforated the parietes; nor is it easier to discover it with the speculum. An instrumental examination, however, is scarcely ever necessary, or even admissible, in the acute stage of this disease, owing to the tenderness of the vagina and internal tissues.

The escape of the pus by the parietes of the abdomen is always preceded and accompanied by considerable inflammatory swelling, and inflammation of the surrounding tissues and of the abdominal walls. The phlegmonous tumour is a long while in reaching the exterior, and gradually involves all the structures which separate it from the skin; thus giving rise to an extensive inflammatory tumour of a very painful and distressing nature. The sympathetic and reactional symptoms

are necessarily very severe in these cases. But the entire series of symptoms, both general and local, which attend the cases in which abdominal perforations occur, may be considered as more especially characteristic of the puerperal form of the disease, as they are scarcely ever met with apart from it.

When the pus has fairly escaped from the pelvic cavity a marked change is observed in the state of the patient. There is a decided lull in all the symptoms. The deep-seated pelvic pains diminish, as also the abdominal tenderness and swelling, and the febrile symptoms rapidly subside. In very many cases the improvement is so rapid, especially when the abscess has opened by the vagina, that the patient is soon considered quite convalescent, and in hospital practice discharged as cured. This improvement, however, although real, is very deceptive with reference to the future. On making a careful digital examination of a patient so situated, we find that the tumour on one side of the uterus is exceedingly diminished in size, that it is no longer so sensitive to the touch, and that there is less heat and tenderness in the upper part of the vagina, and on the side which is in contact with the phlegmonous swelling. But although thus less in size and less inflamed, the inflammatory tumour is, nearly always, still perceptible. Part of it has melted and suppurated, but part remains in a state of semi-chronic inflammation and induration, as is usually the case with suppurated phlegmonous tumours.

The symptoms which pertain to a chronic uterine inflammation will, consequently, be found *still* to exist, on a close examination. Pain, heaviness, and bearing-down deep in the pelvis; tenderness, pain, and often swelling, in one or both of the ovarian regions; pain in the lower part of the back; inability to stand or walk for any time, and especially to go up and down stairs—these symptoms may be more or less apparent.

The orifices by which the pus has escaped into the vagina or rectum generally remain open, and thus allow the pus to discharge itself as it is formed. Sometimes, however, they close in the course of a few days. When this is the case, if pus continues to be formed, it collects again, forms an abscess, and before it again escapes, by ulcerative inflammation, reproduces, generally in a mitigated form, the acute inflammatory symptoms previously experienced.

Were these inflammatory tumours not exposed to the influence of perturbing causes, they would, no doubt, in most instances, gradually become absorbed, and the relapses just described would be slight and unfrequent. Such, however, unfortunately, is not the case; at least in a large proportion of the cases met with. The molimen hemorrhagicum which accompanies menstruation, or any other exciting cause, may arouse the dormant inflammatory action in the still indurated and tumefied tissues. When this occurs, the acute symptoms of the disease reappear; matter again forms, and forces its way into the vagina or rectum; in the latter case again giving rise to dysenteric symptoms.

These exacerbations, or returns of acute disease, become less and less frequent as the inflammatory tumefaction of the uterine appendages diminishes, and as the diseased tissues return to their natural condition. The disease, however, is essentially chronic; and a female who has suffered from inflammation and suppuration of the lateral ligaments, even in its mildest form, may be from several months to one or more years before all trace of local inflammation has disappeared, and before she can be said to be radically well. During this lengthened period she is never quite free from symptoms of uterine irritation, and remains subject, at intervals more or less distant, to the acute exacerbations which I have described.

Whilst thus suffering, the menstruation is always more or less modified. Sometimes it is absent for months; sometimes its appearance is only delayed for a few days or weeks. Generally speaking, the menstrual period is curtailed, the quantity of blood lost is diminished, and great pain is experienced during the entire period of the menstrual secretion.

Long before the local tenderness gives way, and before the patient can be pronounced well, all traces of induration or swelling, as appreciated by the touch, either through the vagina or through the abdominal parietes, will be found to have disappeared. The formation and escape of matter comes to a close at even a much earlier period, before the induration has melted and ceased to be recognisable to the touch.

Such is the succession of morbid symptoms observed in the milder or non-*puerperal* form of inflammation of the uterine appendages. Although generally over-

looked, owing to a want of knowledge of the pathological facts which these symptoms represent, this affection is, in reality, as easy to recognise and to follow, in the evolution of its phenomena, as many better known diseases.

ART. 70.—*Bitartrate of Potash in Uterine Hemorrhage*.—[Dr. Silvester speaks highly of the virtues of this medicine. He observes:]

Everybody is acquainted with its cooling, diuretic, and generally aperient properties, but few are aware of its singular power in controlling uterine hemorrhage. It is not without effect in bleeding from other organs, but I will reserve my observations on this branch of the subject for another opportunity, and restrict myself for the present to a few remarks on its efficacy in restraining chronic sanguineous discharge from the womb.

Uterine hemorrhage may arise from various causes,—separation of the placenta or ovum, diseases of the heart and liver, polypus, malignant ulceration, fungoid growths, &c.; the bitartrate in such cases is equal to any other remedy in checking the discharge, at the same time that it allays feverishness, and tends to keep the bowels regular. But it claims no superiority in these respects over many other medicines; it is in menorrhagia, or excessive menstrual discharge, prolonged continuously beyond its usual duration, or appearing at irregular intervals, that it displays its unequalled efficacy. Sometimes after abortion the patient continues to suffer from an occasional discharge, which gradually ceases after inflicting much injury on the general health, and is with difficulty cured by tonics and astringents; it will in such cases be found to effect an almost instantaneous beneficial change. There are also instances met with in practice of a sanious or pale secretion from the uterus, sometimes treated as leucorrhœa by local astringents; they are accompanied by venous bruit, and are examples of imperfect menstruation. These yield rapidly to the bitartrate of potash, and, singular to say, the patient often recovers perfectly without the administration of iron or other tonics. The foregoing description of the forms of disorder in which the salt alluded to produces a specific effect, will be sufficient for the information of the medical practitioner, who, after a little experience, cannot fail to detect the proper cases for its employment. It would be tedious and irksome to relate individual illustrations in confirmation of the opinions advanced; they are easy of recognition, and the specific property of the drug is so conspicuously evident, that it is probable many will be able to bear testimony to the truth and the accuracy of what has been now stated.

Without pretending to explain the nature of the salutary impression made by this agent on the solids or fluids of the body, I may be allowed to observe, that when, as in chronic discharges, the blood is dark-coloured, it often becomes of a brighter hue soon after the commencement of the treatment.

Proc. Journal, Sept. 6th.

ART. 71.—*Case of Excision of the Anterior Lip of the Os Uteri, with Ulceration*.—[Dr. Clay narrates the following case which occurred in his own practice:]

Priscilla T—, æt. 45, applied to me for what she termed a bearing-down, but had been told there was no cure for her. She had come some distance. I sent her into my private hospital, where I went to examine her by the speculum, and found what she had described a bearing-down to be a very peculiar elongation of the anterior lip of the os uteri, the tip of which was ulcerated, the elongated part was at least two inches. It was accompanied with prolapsus, and caused her considerable annoyance, interfering with defecation as well as the passing of urine; the tip of the elongated part, as well as the opposite lip of the os uteri, was slightly ulcerated. Her constitution had been sinking for some time. Leucorrhœal discharges, want of appetite, yellow tinge of the skin, and general weakness, all indicated considerable depression, increased by being told that her case was incurable. I commenced my treatment by the exhibition of quinine and citrate of iron internally, with an occasional blue pill, as the functions of the liver (as is usual in such cases,) were sluggish; and introduced a medicated pessary of iodide of lead every night, consisting of

R Iodidi plumbi, ʒi,
Cere flavæ, ʒv,
Axungia, ʒvj ℥; div. in pessos iv.

After a few days the ulcerated surfaces put on an improved appearance, and her general health was much better. I thought, however, the cure would progress still more rapidly if the elongated part was excised, which was done, and the tinct. ferr. mur. used to the surface twice a day by means of a sponge tent, still continuing the quinine and citrate of iron, with blue pill internally. In the course of three weeks the parts had assumed their normal position so nearly, and so little of the ulcerated surface remained to be healed, that I sent her home with a zinc wash, to return in about ten days. The case is now well.

ART. 72.—*Acute Peritonitis simulated by Prolapsus Uteri*.—Dr. Meigs states that he has met with about thirty cases in which excessive neuralgia of the whole abdomen, with sensibility equal to acute peritonitis, proceeded slowly from a slight degree of prolapsus uteri. One of these cases he subjoins:

On the 5th of July, 1828, Dr. Meigs was called to a mulatto woman, æt. 30. She was lying on her back, with the knees drawn up, and supporting the bed-clothes with her hand, lest they should press upon the abdomen. She had suffered this pain for several hours, and had short, quick respiration, &c. Upon hearing her account, Dr. Meigs was at first convinced that she was labouring under intense peritonitis, but upon examining the pulse, which he expected to find tense and corded, he was much surprised to discover that it was nearly natural as regarded frequency and hardness. This incongruity led to further inquiries. She had borne several children. Dr. Meigs (he does not say why) now became convinced that her pains were those of prolapsus; and examining per vaginam, he found the uterus low down. By pushing up this, the abdominal pain suddenly ceased, and the woman could bear pressure without shrinking. The pain was reproduced by allowing the uterus to descend.

Females and their Diseases, p. 132.

ART. 73.—*Prevention and treatment of Abortion.*

By DR. TYLER SMITH.

(*Lancet*, April 29, 1848.)

[The following remarks are in continuation of the extract from *Lectures on Parturition*, contained in our last Volume.]

Careful and minute attention to all the various causes of abortion is the true basis of preventive measures. In the prophylaxis of abortion, I propose to follow the order I have already observed in treating of its causes, dealing with the palliation or removal, in the first place, of the ex-centric; in the second, of the centric causes of this accident. I use the word abortion in its largest sense, including every variety of premature expulsion of the impregnated ovum.

With reference to mammary irritation, it is hardly necessary to observe that weaning ought always to take place as soon as the occurrence of pregnancy, during lactation, becomes evident. Gestation and lactation ought never to be permitted to go on at the same time in the same individual, or the child at the breast and the child in the womb must mutually suffer. After weaning, mammary irritation is at once removed, and instead of the exhausting and abnormal irritation in the direction from the breast to the uterus, there comes into operation the healthful and physiological stimulus or synergic action from the uterus to the breasts, which prepares them for the new lactation when the fetus in utero has arrived at maturity.

With respect to dental irritation, it is just necessary to bear in mind that this is occasionally, and in rare instances, a source of uterine disturbance. When the process of dentition (the appearance of the wisdom teeth) and utero-gestation meet in the same subject, the alveolar irritation should be kept under by leeches or scarification, on just the same principle as we should lance the gums during excoito-motor disturbance in the first dentition, to prevent spinal erythismus and convulsions. In the caries, so common in pregnancy, and which often attacks several teeth at the same time, extraction of the diseased teeth should be avoided as much as possible. In the first place, as the pain involves the nerves of many teeth, oftentimes the whole of one side of the jaw affected being neuralgic, the extraction of one or two of the offending teeth will not afford permanent relief.

The uterine irritation remaining, the pain is generally transferred, after extraction, in all its intensity, to the nerves of the neighbouring teeth. In the second place, caries and toothache do not affect the nervous system so much as the sudden violence and the emotional disturbance of extraction. It is truly distressing to witness the almost continual misery in which some women pass through the epochs of utero-gestation and lactation from faulty teeth. This is particularly the case with the wealthier class of patients; and the fact should urge very strongly upon parents the necessity of attention to the permanent dentition in young girls, for with this process the health of the future mother is most intimately connected.

The preventive measures relating to vesical irritation are very simple. In the most formidable irritation of this kind—the concurrence of calculus with pregnancy—and which is necessarily extremely rare, nothing but palliative measures can be resorted to during gestation. The cure must be left to the unimpregnated state. Strangury and urinary deposits, attended with pain and irritation, must be treated carefully, but just as in the unimpregnated condition. Distension of the bladder during pregnancy should be avoided, and actual retention relieved regularly by the catheter. Attention to the state of the bladder is the more necessary in pregnant women, as the accidental distension of this viscus may, in the early months of pregnancy, cause retroversion of the uterus, and this, in turn, will produce permanent retention of the urine; the conditions of the bladder and uterus thus uniting to occasion danger of abortion.

I now come to the preventive measures which relate to ovarian irritation. Here our cautionary plans should be chiefly confined to the catamenial or periodic dates. Patients suffering from severe ovarian irritation during pregnancy should be treated in the periodic exacerbations, much in the same way as we should treat dysmenorrhœal patients during the actual periods attended by pain and difficulty. Warm hip-baths, not exceeding blood heat; warm enemata of the same temperature; the application of a plaster of opium or belladonna over the sacrum; and most especially the avoidance of coitus during the periodic dates of pregnancy should be directed. As regards the blind periods of utero-gestation, as they may be called, continence is as proper in all cases at these times as it is during the actual flow of the catamenia. It is during the first half of pregnancy, or in those women who have suffered from dysmenorrhœa before impregnation, that moral and physical sedatives should be most strictly enjoined. I may here observe, that in dysmenorrhœal cases the times of conception are probably times of abortion, the impregnated ovum descending at once through the Fallopian tubes, uterus, and vagina, with an apparent return of the catamenial discharge, instead of tarrying for development in the uterus, so that women, under these circumstances, may never be conscious of having conceived, though they really do so. There can be little question but that many supposed cases of sterility are of this kind: owing to increased excitability of the motor apparatus of conception, the generative act never goes beyond impregnated oviposition; abortion follows so closely upon abortion, that neither the conception nor the abortion are perceived. Such cases, admitting, as they do, of almost certain remedy, are very different from cases of actual sterility. I have just said, that in ordinary instances of abortion excited by ovarian irritation, it is during the early months that precautionary measures are of most importance; but in those extraordinary cases in which abortion is caused by the adhesion of the placenta to the os uteri, it is in the latter periodic dates of pregnancy that the greatest danger is incurred. I mentioned to you in the last lecture, that, even when not the exciting cause, ovario-excitator action was still in many cases the determining cause of premature action of the uterus; so that in all cases of threatened abortion it behoves the medical attendant to treat the periodic dates with circumspection.

The questions of *rest* and *exercise* are of considerable importance in cases of expected abortion. Some authorities advise regular exercise; others, absolute repose from all exertion. There can be no doubt that walking exercise, carried to excess, excites all the pelvic organs, both the uterus itself, and those organs which are in reflex relation with it; and there can also be no doubt that exercise, which in the unimpregnated state is simply moderate, comes to be excess in the gravid subject. On the other hand, rest, and the habits of ease and indulgence,

living on sofas and pillows, during pregnancy, favours the accumulation of irritability in the muscular system, including the uterus, and in this way increases the chances of abortion.

The precautionary measures connected with rectal irritation are very simple. They consist chiefly in the avoidance or removal of intestinal accumulations by laxatives and mild enemata; the removal of ascarides, when these worms are present; the palliative treatment of hemorrhoids, all operations upon the lower bowel being avoided as much as possible during gestation; and lastly, the avoidance of drastic purgatives. It is, in fact, only necessary to recognise the rectum, not merely as a neighbour to the uterus, but as possessing an excitor surface with excitor nerves, prone to reflect irritation upon the uterus, through the spinal centre and the utero-spinal nerves, and the prevention of abortion as a consequence of rectal irritation becomes easy and well understood. Rectal and vesical irritation, as causes of abortion, have always been recognised; but this recognition is more practical when we see the exact channels—the mechanism, in fact—by which irritation is conveyed from one organ to the other.

The prevention of vaginal irritation in women liable to abortion from habit, or in whom special symptoms lead us to expect this accident, involves as a preliminary the observance of the most rigid continence. In women who have aborted in previous pregnancies, sexual separation ought to be maintained during the whole of pregnancy; and in all irritable subjects, coitus should be avoided during the ovarian periods of the gravid state. In cases where tumours in the vagina complicate pregnancy, it may become necessary to remove them, both to prevent abortion and to facilitate parturition. In all operations affecting the vagina, they should be so timed as to avoid the ovarian periods, and to fall upon what would be the intercatamenial dates, when all irritation and disturbance can be better borne. I have already referred to the use of the plug or tampon sometimes necessary in threatened abortion with hemorrhage, in cases where we still hope to save the ovum; the plug should not be so large as to stimulate the vaginal surface excessively, and it should be fairly introduced into the upper and roomy part of the passage, so as not to irritate the ostium vaginae; at the same time there should be nothing like hard pressure on the os and cervix uteri. Whenever the pressure of the tampon, carefully applied, permanently increases the periodic pains felt in threatened abortion, it should at once be withdrawn, unless we have resolved to abandon the ovum to its fate. The plug ought never to be left in the vagina more than twelve hours at a time, otherwise it becomes extremely fetid and disagreeable, and probably injurious; it is better even to take it away and renew it oftener than this, and to dip it in a weak solution of the chloride of lime before its introduction.

In threatened abortion from uterine disturbance, we may have to deal with morbid affections of the uterus, with disease of the placenta and membranes, or with disease of the uterus itself.

Any persistent irritation of the uterus, but particularly of the os and cervix, as the most excitor parts of the organ, may cause abortion; this is as natural as that irritation of the lungs should produce cough, or that irritation of the stomach should cause vomiting. In these cases we may have to deal with malignant disease of the uterus, syphilitic or gonorrhœal affections; or simple uterine disease, as inflammation, excoriation, or ulceration. In malignant disease complicated with pregnancy, our treatment can be little less than palliative; in syphilitic disorders, we must cautiously pursue the same treatment as would be proper in the ungravid state; and in inflammatory diseases of the os and cervix, and their sequelæ, we must not shrink because of the existence of pregnancy from the careful use of the local applications necessary to effect a cure. Unless the uterine disorder is removed, there must be considerable danger of abortion. The original observations of M.M. Boys de Loury and Costilhes, and the researches of Dr. Henry Bennet and Mr. Whitehead, in this country, show clearly that inflammation and ulceration of the os and cervix uteri, with mucoous or purulent leucorrhœa, frequently coexist with pregnancy; that they are a common cause of abortion; and that they may be treated successfully during gestation, without necessarily disturbing this process. Whenever there is pelvic pain and leucorrhœal discharge in gravid patients who have aborted in previous pregnancies, the condition of the os and cervix uteri should be positively ascertained. The treatment found most successful in cases

of inflammation, excoriation, or ulceration, of the lower segment of the uterus is sufficiently simple, namely, local abstraction of blood, and occasional cauterization of the diseased sites; every possible care being taken to prevent local and constitutional disturbance following from the treatment.

Retroversion of the uterus, though sometimes a cause of abortion, generally requires treatment and reposition, for more immediate symptoms than the premature contraction of the uterus upon its contents. In plethora of the pelvic circulation, and in congestion of the uterine vessels not amounting to inflammation, local depletion by leeches, either above the pubes, or applied to the os uteri directly, is advisable. I have often seen great comfort and relief from the sense of uterine heat and distension, produced by constantly wearing a pad, wetted with spirit lotion, over the pudendum.

In the prevention of abortion, morbid conditions of the placenta require to be considered. The placenta is to the fœtus what the branchia are to the fish, the blood of the mother being the fluid medium in which the fœtus respires oxygen during intra-uterine life, a point which has been ably insisted upon by Professor Simpson. For this reason it appears to be, that the blood of the mother during pregnancy is more highly oxygenated than at other times, approaching to the state of inflammation, as may be seen by the buffy coat and the greater coagulability present in the blood drawn from pregnant women. The placenta has a tendency to become unfit for fœtal respiration towards the end of utero-gestation, when Nature is preparing for the change from branchial to pulmonary breathing. There is frequently observed on the surface of the mature placenta crystals of carbonate of lime, which must tend to interfere with its functions as a respiratory apparatus, and generally, I believe, to facilitate its separation from the uterus. This caducous preparation of the placenta, by the deposition of the salt of lime, is probably connected with the demand for ossific matter in the fœtus, but it must also remind you of the similar deposit of silica in the stems of ripe fruit, in order to facilitate its separation from the parent tree; or we may compare it to the deposit of earthy salts in the lungs and other organs in old age, as preparatory to the death of the individual. It is pretty certain that in some cases of abortion in the latter months, caused by the death of the fœtus, the death has depended on the lower respiring power of the placenta, the placental development having progressed so rapidly as to render the organ prematurely deciduous. Under these circumstances the child dies asphyxiated, unless born into the atmospheric air, just as the tadpole perishes when its branchial development has concluded, unless it can be removed from water to the air. In the opposite cases to this, we have sometimes to deal with retention and adhesion of the placenta, because it is not ripe for its separation at the time of labour. Other morbid conditions of the placenta may tend to the death of the fœtus, and indirectly to abortion, such as inflammation and induration of the organ, tubercular deposit, or effusion of blood into its structure—placental apoplexy, as it might be called; but such morbid states are obscure in their diagnosis, and very much removed from definite treatment. . . .

In disease of the fœtus, producing death, and abortion several times in succession, I fear little can be done beyond attending to the health of both parents. Some have recommended active treatment directed to the fœtus, founded upon the former post-mortem examinations of the fœtus; but a diagnosis in which, as at present, our knowledge of the state of the fœtus actually *in utero* depends on the examination of a previous fœtus, can hardly be depended on as a basis of treatment, notwithstanding the acknowledged tendency to repetition observed in intra-uterine disease. When the death of the fœtus has taken place, the natural result is an abortion forthwith. The respiratory changes going on in the placenta cease, and, as a consequence, the utero-placental circulation is very much diminished, or it is arrested altogether. The temperature of the fœtus falls, and the state of the fœtus and placenta excites premature contraction of the uterus, as mechanically as the rupture of the membranes or the insertion of a tent in the os uteri. In some comparatively rare cases the circulation still goes on in the uterine portion of the placenta, and the fœtus is retained to the full term. Or in cases of twins, there may be an abortion of a dead fœtus and the retention of a living one to the full term of gestation. In all these cases, whether the irritation be in the uterine tissue itself, or conveyed to the uterus

by a diseased or dead ovum, the mode in which the uterus is excited is reflex and spinal, and abortion can only be prevented by diminishing or removing the utero-spinal excitement.

The prevention of abortion depending on habit, and occurring at a particular date of pregnancy, chiefly consists in taking all care to avoid the sources of uterine excitation until the time of danger has been passed. Dr. Griffin, of Limerick, treating the abortive habit as a periodicity, has proposed to administer large doses of quinine; and the suggestion may be useful in some cases. I strongly suspect that one frequent cause of periodic abortion arises out of immaturity of the uterus itself. In practice, we meet with many cases where, although menstruation has appeared, and marriage has been consummated, the uterus is very small indeed—not much, if at all, larger than is natural in the young girl. Such subjects are open to many inconveniences. In cases of this kind, if conception takes place, the uterus is unfit for the full development of the gravid state; and when it has reached the largest size of which it is capable, abortion inevitably takes place. Sometimes we find, in these cases, that the capacity of the uterus for gestation will increase with every pregnancy, or with increasing years, until, after many abortions, the uterus becomes developed, and the full period is reached in safety. Other forms of abortion, sometimes set down to habit, may depend on those diseases of the uterus which are most troublesome at particular epochs of pregnancy—such, for instance, as retroversion, or ulceration of the os uteri.

In cases of emotional abortion, we can do little in the way of prevention. The indication is of course to keep the mind, and particularly the uterine system, as tranquil as possible after all emotional shocks occurring during pregnancy. As it is generally some few days after the mental shock that the uterine disturbance begins, we have the time in which to do this afforded us; but the effects of emotion of a severe kind can never be altogether averted. Where there is already a tendency to abortion from other causes, emotional disturbances should be especially avoided. We may have the symptoms of abortion passing away, when some sudden ill news, an apprehension of fire, or any other acute disturbance, will produce an instant contraction of the uterus, and the expulsion of its contents. Abortion appears to be prevalent at particular times; but this epidemic is generally, I suspect, rather one of emotion than the result of physical agencies. During the present time, when public catastrophes and apprehensions of evil are rife, and the throne and the cottage are alike agitated, I believe there is an unusual tendency to abortion. I am certain that I have seen several recent cases referable to this cause.

To eradicate the abortive diathesis, prolonged continence ought to be observed. A year's entire rest to the sexual system is not too much in severe cases; and the catamenial periods should be carefully attended to. Dysmenorrhœa should be relieved, if there happens, as there frequently will happen, to be a tendency to this disease. Any disease of the utero-vaginal passage should receive appropriate treatment. Everything which can possibly be devised should be resorted to, to give tone to the uterine nervi-motor system—such as the administration of iron in delicate subjects, the cold douche to the loins, and general cold bathing. In very obstinate cases I should be disposed to try the effects of a continued galvanic current through the spine and the sexual organs; or I would prescribe small and continued doses of ergotine or strychnine as tonics of the utero-spinal axis. The general sedatives of the nervous system during pregnancy are moderate exercise, spare and cool diet, small bleedings in plethoric or in sanguine habits, mental quiet, tepid or cold hip-baths, and, above all, a pure atmosphere. The nervous system in pregnant women resembles in its irritability the nervous system in infants and young children; ordinary narcotics are therefore stimulant rather than sedative, and as such ought not to be prescribed in ordinary cases during utero-gestation.

ART. 74.—*On Occlusion of the Os Uteri and Vagina.* By DR. TRASK.

(*Amer. Journ. of the Med. Sciences*, July, 1848.)

The present communication arose out of considerations connected with one lately published (see next Art.) by the same author. Among the causes of

rupture of the *wotab*, obliteration of these parts appears as an occasional occurrence, and was thought worthy of more detailed examination. The author, in the first place, narrates twenty-one cases of complete occlusion of the os, upon which he bases an inquiry into the causes, pathology, natural termination, and different modes of interference, with their results.

In two instances the lesion was traced to inflammation following severe instrumental labour; in another to the same cause arising from ordinary labour; and in another to inflammation after abortion. In others it was the result of attempts to procure abortion, or to congenital malformation. As to the condition of the parts: In one case no os could be felt, but in its place a firm point, with three diverging ridges. In others, no locality for the os was perceptible. In others, cicatrices pointed out where the os had been situated. In some instances the os was obliterated by a tough membrane united to its margin, which was broken through by the finger, or by the aid of the female catheter. Naegele attributes the production of this membrane to chronic inflammation of the cervix, which explanation is also admitted by Dr. Ashwell. (Guy's Hosp. Reports, vol. iv.) The strength of this adventitious membrane varies.

The diagnosis of obliteration of the os is sometimes a matter of difficulty. Some authors deny its existence, and attribute such cases to obliquity of the organ.

On failure to reach the os, the probability of some form of obliquity would naturally suggest itself. Bearing in mind the different positions which the uterus might assume, the practitioner should explore the whole pelvic cavity; if by chance the os might be found abnormally situate, under the influence of uterine contraction, the head is forced into the hollow of the pelvis, forming a hard globular tumour. If there have been any considerable disorganization, the place where the os should be is recognised by an indurated cicatrix; or if there be simple agglutination of the os, there will be a dimple or depression below the surface of the surrounding parts, indicating the situation of the uterine orifice.

[On the subject of the proper time for interference, and the most suitable means to be adopted, the author proceeds as follows:]

Satisfied that obliteration of the os exists, our course will be determined very much by the character and degree of the morbid alterations. In cases of obstruction arising from the deposit of a thin, filamentous, cellular tissue, Naegele recommends that it should be broken down by a female catheter. In some cases the membrane is so firm as to require division with a cutting instrument.

When the obliteration is caused by firmly organized adventitious deposit, there can be no doubt that an incision should be made at the seat of the obliterated orifice. The only question is as to the time at which the operation is to be performed. The cases cited show distinctly that nothing is to be gained by delay, but that much is perilled by temporising treatment; and that the chances both to mother and child are much enhanced by an early resort to the incision. The operation is usually performed with a bistoury, guided by the finger.

[The next portion of the paper is occupied with the narration of seventeen cases of partial occlusion of the os uteri, the causes of which are stated to be, as in the former case, inflammation from mechanical injuries, and also organic disease. Ordinary rigidity of the os is not considered by the author, as ample directions for its treatment are to be found in the general text-books of midwifery. His object is to consider the treatment of such cases as do not yield to venesection, tartar emetic, or opium, and whether the rigidity be due to an indispotion in the structures to dilate, or to morbid changes, the result of inflammation or organic disease. With this object three courses are passed in review, namely, abandonment to nature, artificial dilatation, and incision. The two former are looked upon as useless or prejudicial. Of the latter he observes:]

Our only resource is a section of the rigid os: to determine the proper time for interference is more difficult than when complete obliteration exists. In the latter case, the knowledge that an opening must be made by nature or art, will induce us to resort to it early, and thus to avoid the risks attendant upon delay; but in obstinate rigidity, unaccompanied by distinct organic lesion, it may be more difficult to determine the proper time for action.

From the evidence of cases, it is seen that the operation, when resorted to in

season, is attended by the most favourable results. The incision, so far from leading to more extensive and dangerous lacerations under the continuance of pains, in none of these instances encroached on the peritoneal cavity; nor was there any considerable pain or loss of blood.

[The same principles of treatment, viz.: early resort to division of the opposing structures, is also recommended in partial obliteration of the vagina from cicatrices. Dr. Ingleby advises that the incision should be made during a pain.]

ART. 75.—On Rupture of the Uterus. By DR. TRASK.

(Amer. Journ. of the Med. Sciences.)

This important monograph commences with quotations, exhibiting the great diversity of opinion which obtains among writers of celebrity respecting the course to be pursued under the appalling accident of rupture of the womb. From these it appears that Blundell and Davis would not attempt delivery as long as there appeared to be any chance of recovery undelivered. Lee and Merriman would abandon the woman unconditionally when the rent has become diminished by contraction. Burns and Ramsbotham would be disposed, under these circumstances, to practise gastrotomy early, and by the "small incision." Blundell would wait until there should be no chance of recovery if left alone. Velpeau would try every other mode before proceeding to gastrotomy; and Churchill considers its propriety very questionable. Dewees, on the contrary, regards gastrotomy, immediately performed, as the only chance. It is, the author observes, of great importance that these discordant opinions should be reconciled, and the practice most calculated to be successful should be determined. And as this can only be done by ascertaining the collective experience of the profession, he endeavours to accomplish the end by the comparison of all the authentic cases on record. Of these, upwards of 300 are collected, and tabulated under various divisions, and with unusual attention to accuracy.

From the analysis of these cases, the author proceeds to establish the history of rupture of the uterus, commencing first with the

Causes of rupture.—These are predisposing and immediate.

1. Among the former, contraction of the pelvis is generally considered to be pre-eminent, especially when the rupture is at the cervix, and its influence is accounted for in three different manners. The first is, that the rupture is due to gangrene, the consequence of inflammation. A second idea is that entertained by Ramsbotham, that a thinning or softening of the uterine tissue may be induced by the pressure exercised between the promontory of the sacrum or pubes and the cranial bones. A third does not recognise any morbid condition of the uterine substance, but accounts for the influence of contracted pelvis by the fact that a portion of the cervix is pinched between the head and the pelvis, and so fixed as to receive the whole force of the uterine contractions.

The author considers that each of these explanations may be occasionally correct, but that neither is of general application.

2. Rupture of the fundus is, according to the author's cases, in a large proportion of instances, caused by a morbid thinning or softening of the uterine walls. Of 49 cases in which the condition of the uterus is mentioned, it was *thinned* in 14, *softened* in 14, both *thinned* and *softened* in 1. In 2 others it was *thick* in some places, *thin* in others. In 10 it is spoken of as *healthy*. These remarks bear out the conclusion of Dr. Murphy (Dub. Med. Jour. vol. vii.), "that in most cases rupture depends upon a diseased condition of the uterus, and is therefore unavoidable" under certain conditions.

3. Other predisposing causes are, a *large fetal head*, *oblique positions of the head*, and *transverse position of the trunk*; of each of which, examples occur in the table.

4. *Insurmountable rigidity of the cervix* acts similarly to a contracted pelvis, as do also unyielding vaginal bands and cicatrices.

5. *Obliquity of the womb*, as a predisposing cause, is illustrated in two cases.

6. The previous performance of the Cæsarean operation renders the uterus liable to give way at the locality of the cicatrix.

7. Dr. Channing furnishes two cases in which *polypus of the uterus* was the remote cause.

The immediate causes of rupture are, uterine action, natural or increased by ergot, external violence, as blows upon the abdomen, and forcible attempts to induce artificial delivery.

1. Rupture from spontaneous action of the uterine fibres is analogous to rupture of the heart and stomach. It is not, as is commonly thought, always connected with protracted labour, but may, as the author shows, occur at any time after the commencement of uterine contractions.

2. If normal uterine action is capable of inducing rupture, the increased action of the organ under the use of ergot is *a fortiori* to be expected to increase the danger of the accident. The author remarks that, for obvious reasons, but few such instances are recorded, but quotes the authority of Dr. Meigs, who has seen at least three cases in which rupture followed the imprudent exhibition of ergot. Dr. Bedford also possesses four specimens of ruptured uterus from the same cause.

3. Rupture may be produced by blows, and also from injuries inflicted during the unskilful performance of obstetrical operations, especially that of introducing the hand in turning. The cervix has been also torn off by the forceps, and that instrument has been in other cases thrust through the uterine parietes. The author adduces several cases, illustrative of the accident of rupture arising from inexperienced obstetrical interference.

4. La Motte and Levret attach great importance to violent movements of the fœtus as a cause of rupture. In four cases in the author's table, the accident followed immediately upon such movement, but he is indisposed to admit the sequence of cause and effect.

5. From three of the cases, it appears that rupture may follow mental emotion.

Pathology of rupture.—The author's abstract of cases embraces the most important circumstances connected with the pathology of this accident. Of these we have space only for the following table:

Situation of the rupture.—Of cases occurring during utero-gestation—

7 were of the fundus.	3 involved the cervix and vagina.
1 was of the posterior part.	1 from cervix to fundus.
2 of the anterior part.	1 of cervix, body, and of the bladder.
2 of the right side.	2 of posterior and inferior part.
1 of the left side.	1 lower segment torn off.

Of cases during parturition—

11 were of the fundus.	15 from cervix to fundus.
13 of the posterior part.	2 involved the bladder.
14 of the anterior part.	47 at the cervix, involving the vagina.
8 of the right side.	2 of the body.
7 of the left side.	7 transverse.
2 of the vagina.	

Symptoms of rupture.—The symptoms of rupture of the uterus are usually well marked, and the common observer cannot but see that something serious has happened. When it occurs during parturition, it is generally during a pain of unusual severity. The patient is conscious that something has given way within her; she feels a tearing or rending sensation, and in some instances the sound attending the rupture has been heard by the bystanders. But, whether the patient be conscious of any peculiar sensation or not, almost immediately after the stomach rejects its contents, the countenance assumes an expression of anxiety, and on examination, the presenting part is found to have receded; the contents of the uterus are high up in the abdomen, perhaps the limbs of the fœtus can be distinguished immediately beneath the integuments, and there is slight hemorrhage from the vagina.

Very soon dark-colored matter is ejected from the stomach, the pulse becomes rapid and feeble, the skin cool, and covered with perspiration, and there is great sensitiveness of the abdomen. If no relief be afforded, the patient dies within a few hours of hemorrhage, or from the shock which the constitution has received, or lingers a few days to perish from inflammation; or perhaps, in some rare cases, life is continued, and the fœtus is discharged piecemeal. To the occurrence of

each and all of these symptoms there are numerous exceptions, and the practitioner should therefore be prepared to meet with cases of this accident in which they are not so distinctly marked.

Diagnosis.—The two circumstances which are diagnostic of the accident are, first, recession of the presenting part, which almost always happens when the rupture is at the fundus, or in the body; very often when it is at the cervix, and sometimes when it is confined to the vagina; and, secondly, the ability to distinguish the limbs of the fœtus beneath the parietes of the abdomen, where they were not felt before. It is important, however, to remember that, if the head is impacted it cannot retreat, and also that, in some persons, the walls both of the abdomen and uterus are so thin, that the limbs of the fœtus can be clearly made out by external examination, even when no rupture has taken place.

Prognosis.—The author considers that we are unable to ascertain the actual rate of mortality. According to Smellie and Lever, slight lacerations of the os are unattended with danger; while, on the other hand, several such in the series of cases accumulated by the author have proved fatal.

In forming our prognosis, much consideration is to be given to the extent of injury, the parts involved, the amount of hemorrhage, and the constitutional shock. If the peritoneum remain entire, it is evident that the patient escapes in a great measure the risk of peritonitis. When the muscular coat is involved, the patient is exposed to the risk of metritis. The author's cases do not teach us that lacerations of the cervix itself, extending into the body of the womb, or down into the vagina, enjoy any immunity over rupture in any other part of the organ.

The prognosis in any particular case must be a matter of great uncertainty, inasmuch as some have recovered from most extensive lacerations, and others have died from very slight lesion of the muscular coat alone. The amount of danger that may be incurred from inflammation can never be anticipated.

Since a morbid condition of the womb is in many cases a predisposing cause of rupture, it becomes an interesting question whether this condition can be predicated during life. It does not appear that this can be done. It is true that in some of the cases collected by the author, the patient had been the subject of dysmenorrhœa; another had repeatedly miscarried; others complained of severe pain in the belly; others of a tendency to vomit, &c.; but the information to be derived from such symptoms is obviously too vague to be relied upon as indicative either of *softening* or *thinning* of the uterus.

Treatment.—The author first inquires whether the practice of noninterference, recommended by the old writers, is correct, and decides satisfactorily, from his series of cases, that it is not. On the contrary, it is rendered evident that artificial delivery, as sanctioned by modern authority, is the proper course. Thus, of 154 cases delivered by artificial means, 97 died, and 57 survived; of 89 abandoned undelivered, 65 died, and 24 survived. Of 31 delivered by natural efforts, 20 died and 11 survived.

This gives a slight difference in favour of those artificially delivered, but is to be regarded as a mere approximation to the truth, for reasons afterwards stated.

But even if artificial delivery be not greatly superior to noninterference as regards ultimate recovery, it has considerably the advantage as regards immediate survival, for it appears from the author's tables that the average continuance of life after rupture is, for the delivered, 22 hours; while for the undelivered, it is only 9 hours.

The author considers the treatment of rupture during pregnancy and parturition together, noticing, first, cases in which the whole fœtus, or the head, with more or less of the body, has escaped into the abdomen; he also treats of the same division of cases under the complication of contracted pelvis, after which he lays down the following rules of guidance:

1. *When rupture occurs in a patient with a well-formed pelvis*, the head being of a natural size, the treatment must depend upon the situation of the fœtus. Should it have descended into the pelvic cavity, and be ascertained to be alive, delivery by the forceps should be attempted. If the child be known to be dead, the head may be lessened.

2. *Should the fœtus have escaped into the abdomen, the pelvis being ample*, the course to be adopted will depend upon the condition of the laceration. If the laceration

ration has engaged the vagina alone, or if, although the cervix is implicated, there is still room to extract the fœtus without forcible dilatation, version is to be preferred. Where the rent is confined to the uterus, and the edges have contracted, a different course is indicated. The only conditions in which version is allowable after rupture are, *ample pelvis, head of moderate dimensions, and the uterus uncontracted, or the rent confined to the vagina.*

3. *If the head be impacted from constriction of the outlet, perforation appears the proper mode of practice.*

4. In the case of escape of the fœtus, with contraction of the edges of the laceration, two courses have been proposed; one is, to leave the patient to Nature, the other is *gastrotoomy*. The author has shown that non-interference holds out a worse chance than any other, both as regards the immediate and remote consequences; and he therefore fixes upon *gastrotoomy* as the only justifiable proceeding.

5. When the brim of the pelvis is contracted by deformity or morbid growths, the author likewise advises *gastrotoomy* in preference to violent attempts to deliver by the forceps, &c.

6. A question often arises as to how long a time after rupture it is proper to attempt artificial delivery. The longest period in the table was eight days. Although this case recovered, the author does not regard it as a course to be generally recommended. When patients have recovered with the fœtus in the abdomen, it has been either from the escape of the fragments after putrefaction, or after the formation of false membranes about it. Should the formation of false membranes have taken place by the organization of the lymph thrown out, a destruction of these membranes, by the violent removal of the fœtus, might easily result in serious consequences; but if, on the other hand, putrefaction had taken place, and the patient laboured under fever in consequence, a careful attempt at removal by the hand, provided the rent freely admitted it, or by *gastrotoomy*, would probably afford the best chance.

7. *Delivery should be effected as early as possible after the rupture has occurred.*

8. When the death of the mother has taken place, and the child is known to be alive, it should be extracted by *gastrotoomy*.

Treatment after delivery.—It appears from the histories of the cases collected by the author, that the course from which the greatest success is to be expected is the following:—Immediately after delivery, an opiate should be given, and stimulus if required. The bowels should be evacuated before inflammation sets in. The patient should be put upon an active mercurial course; as soon as the bowels have been moved opiates should be administered so as to restrain their action for some days. Inflammation is to be kept within bounds by the abundant use of leeches, and evacuation of the bladder must be secured by the catheter.

ART. 76.—*On the Mode of Application of the Long Forceps.*

By Professor SIMPSON.

(*Edinburgh Monthly Journal*, Sept. 1848.)

When the head of the child becomes fixed in the brim of the pelvis, and the uterus fails in propelling it, one of two modes of instrumental delivery are usually resorted to, viz. *perforation* and *craniotomy*, or extraction by the long forceps.

Craniotomy is the preferable operation when the child is dead, and where the distortion is very great; but it has the disadvantage of being fatal to the child in all cases, and to the mother in one in five cases, as appears from Churchill's tables. The long forceps are stated by the author to afford the best chance of life to the child, but are not so often used as they should be, from misapprehensions regarding the difficulty and danger of their application. They differ from the short forceps, both in construction and application. The short forceps are always applied to the lateral surfaces of the head, whatever its position may be; the mode in which the long forceps ought to be applied is the subject of considerable difference of opinion.

If they are applied for inertia, hemorrhage, or other such complication, while the head is passing through the brim, and the brim and head preserve natural proportions, the instrument may perhaps be applied, like the short forceps, to the

sides of the head; but the common reason for the application of the long forceps is morbid contraction of the brim in its most general form, and from its most general cause, viz. in the antero-posterior diameter, from projection forward of the promontory of the sacrum. How are the long forceps to be used in this case? It is in the first place requisite to state, that under this complication the child's head is situated in the brim, with its long diameter lying in the transverse diameter of the brim, or with the forehead looking to the ilium, and the occiput to the other. In other words, the long diameter of the head is not as usual placed in the right diagonal diameter of the brim, but more in its transverse; for where the promontory of the sacrum forms a morbid projection, the transverse forms the longest diameter of the brim, and, consequently, the one in which the child's head comes to be placed by the uterine efforts. The face or forehead looking to the ilium, and the occiput to the other ilium, the lateral surfaces of the child's head come to be compressed between the protruding sacral promontory and the interior of the symphysis pubis. Now, in seizing the head in this case, some authors aver that,

1st. *The blades of the long forceps are placed, as in applying the short forceps, on the lateral or aural surfaces of the child's head, and consequently with one blade in front of the sacral promontory, and the other behind the symphysis pubis.* Burns, Dewees, &c., speak thus of applying the long forceps in the conjugate diameter of the brim; and Dr. Churchill has published a woodcut representing this as the actual method of their application in practice. But its application in this position is impossible in the very cases in which the long forceps are generally required, viz. where the conjugate diameter is contracted, for there is not room for the additional thickness of the blades of the instrument; if applied, they add to the thickness of the head in that one diameter and place in which it is already too thick and large; their pressure would greatly endanger the urethra and bladder in front, and the soft structures placed over the promontory of the sacrum behind; and they could not thus be placed in the axis of the brim in consequence of the pressure of the perineum upon the instrument below. Other authors aver that,

2d. *The blades of the long forceps should be placed over the occiput and forehead or face of the child, and consequently in the transverse diameter of the brim.* This is the view of their mode of application taken by Deleurye, Davis, &c., &c., and approaches much nearer the reality than the former opinion; but that it is not strictly true, is shown by the marking of the place of application of the blades of the instrument after the child is born, and by a more attentive consideration of the mechanism of such labours. One blade has been found to have been placed behind one ear, and the point of the other to have pressed upon the side of the forehead, temple, or region of the eye; but these would not be the places of the markings of the blades if they were applied in the transverse diameter, upon a head placed directly transverse. Dr. Ramsbotham has published a beautiful plate of the mode of application of the long forceps, and has given an excellent chapter on the subject in his work on midwifery. He correctly represents in the plate the anterior blade as placed upon the side of the forehead and eyebrow; but in order to give this view with the forceps placed in the transverse diameter of the brim, he has been obliged to represent the face as turned backwards; whilst in reality, in morbid contractions of the conjugate diameter of the brim, it is actually turned laterally; and he places the long diameter of the blades of the forceps so as to traverse the right oblique instead of the left oblique pelvic diameter.

3d. *The blades of the long forceps should, I believe, be placed obliquely upon the child's head—one, the posterior, over the side of the occiput, and the other, or anterior, over the side of the brow or temple, and consequently should be situated in the oblique diameter of the brim.* The markings on the child's head after birth always show this mode of application of the instrument: when properly applied upon the mother, and when their situation relative to the pelvis is examined, they are found to have assumed this position; and in experiments with the instrument (when the head of a dead child is fixed in the pelvis with a contracted brim), this is the position and relation which the instrument will be seen to assume with relation to the infantile head and maternal pelvis. Besides, in thus placing the instru-

ment, while we incur less danger of injuring the urethra and other important parts, we place the blades of the instrument in exactly those parts of the pelvic circle where there is least pressure, and consequently most room for them. It is apparently in consequence of misconception on this point that some authors have come to prefer the use of the perforator to that of the long forceps. Dr. Collins, for example, argues that, when the head is detained in the pelvic brim, the brim "measuring little more than three inches from the pubis to sacrum," there cannot possibly be space for the long forceps, even were the bones denuded, seeing that the blades of the smallest-sized forceps used in Britain, even when completely closed, measure from $3\frac{1}{4}$ inches to $3\frac{1}{2}$. "How," he adds, "is it possible with the forceps to drag a child through a pelvis where there is not space, except by force, to introduce, as is commonly said, a straw, or where the smallest flexible catheter cannot be passed in some instances into the bladder?" These and such opinions proceed on the erroneous idea that the long forceps are to be applied, within the pelvis, at the parts or in the diameter in which the pelvis is *most* contracted, and they suppose that the head, when fixed in the pelvic brim, fills completely the *whole* circle of the brim. The usual shape of the morbidly-contracted pelvic brim is cordate, or rather elliptico-cordate, but the child's head is not of this shape: it is ovoid, and consequently when applied to the cordate brim leaves unoccupied spaces. The most unoccupied spaces before and behind are at the extremities of the oblique diameters of the brim, where sufficient room is left for the passage of the blades of the forceps, and in these points they are passed when properly applied.

ART. 77.—*Remarks on the Forceps.* By Dr. ALEXANDER TYLER.

(*Obstetric Record*, August 1, 1848.)

We have all, no doubt, often asked ourselves the question, why an instrument so valuable, in the hands of judicious and experienced practitioners, should be extolled by some as the noblest of instruments, whilst others have attempted to limit its use so far as almost to discard it from general practice; and some few even have looked upon the introduction of the forceps into obstetric practice as a greater evil than those for the prevention of which such an instrument was invented.

Now to be able to arrive at anything like a true estimate of the real worth of this instrument, it will be necessary for us to trace the sources of error into which both the advocates and enemies of the forceps have fallen, and to discover, if possible the cause of all this discrepancy of opinion as to its real value. That their abuse in the hands of rash and inexperienced practitioners has tended principally to lower our estimate of them, I believe to be an admitted fact; we shall therefore, first, endeavour to point out some of the sources of their abuse, and what we conceive would be the best means of prevention in future.

The abuse of the forceps, in the first instance, often arose from an exaggerated opinion formed of their real capabilities. We read that Dr. Hugh Chamberlen, in 1670, asserted he could deliver a woman in a few minutes with the forceps, in whose case Mauriceau had given it as his opinion that the Cæsarean operation would be required; Chamberlen's attempting to deliver with the forceps, in a case of such extreme deformity, showed that the range of their applicability, in his mind, was much too extended. Nor was it up to a much later period that any general rules, as to the cases suited for their safe and successful application, were framed; and even at the present day, with all the knowledge we possess of the grades and varieties of deformed pelvis, few obstetricians will deny the great difficulty that is occasionally experienced in deciding as to whether a possibility exists of delivering a living child, or that rather we should abandon all hope of saving the offspring and sacrifice one life, for the purpose of delivering the mother with greater safety.

Every obstetrician of experience has been placed over and over again in this difficulty, and notwithstanding the extent of his own experience, feels he would like to have the opinion of another more experienced than himself. This can easily be obtained in large cities, and by and by, when railways are generally established throughout the land, will be available also to country practitioners in general; but hitherto the young country practitioner has not enjoyed these advan-

tages; he has been too often placed in the dilemma of either calling in a rival, or acting on his own judgment; the latter is the course generally pursued, as unfortunately medical men in some country towns carry this spirit of rivalry so far, that they prefer operating upon their own responsibility, rather than run the risk of having their practice found fault with by another, who may afterwards unfairly criticise to the injury of their professional reputation. Now to enable the young practitioner to meet these difficulties at his outset in practice, let us give him opportunities of operating while under our guidance as a pupil. It has often struck me, that the instruction which our students get in practical midwifery, even in Dublin (acknowledged to be one of the best midwifery schools in the world), is in some respects deficient for the mass of midwifery pupils, who, without further preparation or experience, are to engage in the practice of midwifery afterwards. I include in this category all students who are satisfied with a six months' attendance upon practical midwifery. During that period, if industrious, no doubt they may lay up a useful stock of practical information, so far as diagnosing presentations, the unequivocal symptoms of labour, treatment of hemorrhage, and so forth; they will also have seen the various operations performed, instrumental and manual, and may have delivered the stuffed fœtus with the forceps, on the machine—a lesson I by no means disapprove of; on the contrary, I believe that a certain degree of dexterity may be acquired by practising the use of the forceps even on the machine: but is that lesson sufficient to guide the young practitioner in his first attempt at extracting a living child through a pelvis containing most delicate and important soft parts? I need only mention the urinary bladder in front, and the rectum behind, together with the numerous important nerves and blood-vessels, &c.

The operation upon the machine can be accomplished by due attention to the laws of mechanics, a body of a given size being handed to him to extract through a space of known dimensions; but how altered are the circumstances of the case, when he is called upon to deliver a delicate woman of a living child! here two lives are depending upon his skill and judgment. He may, no doubt, succeed in extracting the child, from the knowledge that he has acquired of the axes of the pelvis, and the previous accomplishment of delivery of the stuffed fœtus with the forceps upon the machine; but he must now take into consideration, first, that the compression exerted upon the child's head, if too long, &c., will destroy its life; and second, that the soft structures of the mother are endangered by every mal-directed movement of the instrument, especially should they have been at all in an unfavourable state for delivery, the former foiling the very object for which we have recourse to the forceps; and the second error, if committed (of injuring the soft parts of the mother), entailing too surely a life of suffering and misery upon the unfortunate victim, should she recover the first effects of the operation.

With a view of checking, and, in time, curing this crying evil, it has often struck me for some time back, as no doubt also others, who have considered the subject in its proper light, that our only effectual remedy for it would be, to afford advanced students (who purpose devoting themselves to midwifery practice) opportunities of using the forceps, and indeed performing the various other obstetric operations (under our strict guidance and inspection) which they will afterwards often be called upon to perform out of the reach of assistance, whilst in the discharge of their daily duty. I feel convinced, were such opportunities generally offered, that numbers would be found ready to avail themselves of the increased facilities thus afforded, of safely acquiring dexterity and confidence in the use of instruments, now denied to the majority, whilst resident in our midwifery institutions, and which they must afterwards acquire, to the detriment of science and of their patients, and perhaps at the expense of losing a hard-earned reputation. Surely, in this age of advancement, when education is making such strides to instruct the millions, we ought not to deny the midwifery pupil the means of perfecting himself in that particular branch, unless at such a sacrifice of time as is incompatible with his general interests, if purposing to settle in the country, or abroad.

The abuse of the forceps in the hands of unskilled and inexperienced practitioners, in my mind, ought to rank first amongst the causes tending to depreciate their real value, or even, I would venture to say, their abandonment, by a few

over-cautious practitioners. The second cause may fairly be assumed to be the great variations as to the length and size of the instruments recommended and used in different countries: for instance, let us contrast the modern French forceps with those in general use in this country; the former measure eighteen inches in length, whereas ours seldom exceed thirteen, and the other proportions are equally at variance. Now can it be imagined that both are equally applicable and safe? surely not; either those used by the French are too long and bulky, or else our forceps are inefficient, and therefore worse than useless.

I believe most experienced midwifery practitioners, at least in this country, have come to the unanimous decision, that as a general rule, the long forceps (by which term I would designate all forceps exceeding thirteen inches in length) are most unsafe as regards the soft structures of the mother, and in most instances where used, have proved equally dangerous in compromising the life of the child, so that in the majority of cases we might as well have performed craniotomy, with a certainty of preserving in perfect integrity the soft structures of the mother, as well as lessening the risk of a fatal termination; inasmuch as we substitute an operation of safety and of easy performance for one which must be looked upon, in all such cases, as highly dangerous in its results, even when performed by the most expert and judicious operator. Taking this view of the subject, I think it ought to be laid down as a law amongst obstetric practitioners, not to have recourse to the use of forceps exceeding thirteen inches in length; but rather to use the deadly perforator, for the sake of the mother, without reference to the life of the child, in those cases requiring a longer instrument. Until some definite decision has been come to in reference to the limited length of the forceps, it never can be considered as a safe instrument; for inasmuch as every additional inch adds to its leverage power, by so much is the danger increased of using it. In many cases of slight deformity at the brim, where the head is arrested, and where the advocates of the long forceps would recommend their introduction, I should much prefer the operation of turning, as recommended by Dr. Simpson, as affording nearly as good a chance of saving the child, without putting the mother to such risk as I maintain she always incurs by the introduction and use of forceps with such great leverage power, and the iron points of which are far out of our reach and guidance. Or if we can be certain that the contracted brim is wide enough to allow the passage of the child's head, when compressed under the influence of powerful uterine action, I think, in such a case, we are justified in administering the ergot of rye, the action of which upon the uterus, if the impediment exist only at the brim, will effect delivery safely and securely; and even if the cavity and outlet are also contracted, will at least drive down the head of the child within reach of such forceps as we are in any instance justified in using.

[The author, in conclusion, narrates cases, several of which exhibit the advantage of giving ergot previous to using the forceps. In one instance the head was quite out of reach until driven down by the expulsive action of this drug, and but for this the author would have had recourse to the perforator.]

ART. 78.—*Spontaneous Expulsion of a Uterine Tumour after Delivery.* By Dr. ELDRIDGE.—We have great pleasure in noticing the following remarkable case, in which a large uterine tumour, probably of the ordinary fibrous character, was enucleated and expelled without artificial interference. It is probable that, consequent on delivery, inflammation and sloughing of the uterine tissues between the tumour and the cavity of the uterus had taken place, and that the mass had been expelled by the uterine contractions, to which its own presence in such a state would give rise. It is particularly interesting and instructive, as affording another instance of nature's own process for the cure of this malady.

The mother, æt. 37, had borne her last child seventeen years previously. She had, since then, enjoyed very good health, and her pregnancy presented nothing peculiar, excepting an apparently very rapid and extraordinary increase of her size. The labour presented no remarkable or very serious peculiarity, except its protraction, and that force was required to bring out the head, the breech having presented. The child was dead. After complete delivery, the uterus continued so large as to excite a suspicion of the presence of twins. After about an hour an

examination was made, per vaginam, and the uterus found to contain a hard unyielding tumour, of the size of an adult's head, or even larger, its surface presenting the appearance of granulations, without any investing membrane, and internally its structure was fibrous and extremely hard, firmly imbedded in the muscular texture of the uterus, and attached to it over a large surface. At its margin it could be separated from these attachments by the fingers, but soon the finger reached adhesions so firm as to be incapable of dividing them. She was at this time full as large as a woman at the full time. For two weeks she had frequent febrile attacks. At the end of this time the tumour began to diminish slightly, and the discharges became very fetid and offensive; but her general health steadily improved. Thirty-eight days after her confinement the tumour was discharged without any pain. It was very fetid, and had evidently been detached for some time. The tumour weighed two pounds, and measured five inches by three, even after suffering so much from breaking down and decomposition.

Boston Med. and Surg. Journal, Feb. 2, 1848, and Obstetric Record, July.

ART. 79.—"Sachets" in Prolapsus and Relaxed Vagina.—Dr. Meigs frequently has recourse to the sachet or little bag recommended by Leuret, but too much neglected in the present day. These should be made of good linen, of the shape of the finger of a glove, and packed full of finely-ground, but not pulverized, Aleppo galls; to which may be added a few grains of sulphate of quinine and alum. The bag may be secured, and its removal assisted, by tape secured to its lower end. Before being inserted, it should be soaked in some weak port wine or claret, and then pressed dry in a napkin and dipped in sweet oil. It will give tone to the vaginal walls, as well as keeping up the womb. It may be allowed to remain six or eight hours daily for an indeterminate period. These sachets may be made of other ingredients, as cubebs, kino, oak bark, &c.

Females and their Diseases, p. 177.

ART. 80.—Medicated Pessaries.—The following are those chiefly used by Dr. Simpson:

Zinc pessaries. R Zinci oxidi, dr. j; ceræ albæ, dr. j; axungiæ, dr. vj. Misce et divide in pessos quator.

Lead pessaries. R Plumbi acet., dr. ss; ceræ albæ, dr. iss; axungiæ, dr. vj. Misce et divide in pessos quator.

Mercurial pessaries. R Unguent. hydrarg. fort., dr. ij; ceræ flavæ, dr. ij; axungiæ, oz. ss. Misce et divide in pessos quator.

Iodide of lead pessaries. R Plumbi iodidi, scr. j; ceræ flavæ, scr. vj; axungiæ, dr. v. Misce et divide in pessos quator.

Tannin pessaries. R Tanninæ, scr. ij; ceræ albæ, scr. v; axungiæ, dr. vj. Misce et divide in pessos quator.

Belladonna pessaries. R Extr. belladonnæ, scr. ij; ceræ flavæ, dr. iss; axungiæ, dr. vj. Misce et divide in pessos quator.

Monthly Journal, June 1848.

SECT. II.—DISEASES OF CHILDREN.

ART. 81.—On the Pneumonia and Bronchitis of Infancy.

By R. C. GOLDING, M.D.

(*British Obstetric Record, No. 11.*)

[After explaining the source of the peculiar liability of early life to pulmonary and bronchial affections, the author endeavours to systematize the variable phenomena attending them in the following manner:]

1. The bronchitis of children may be acute, attended with copious purulent secretion, dyspnoea, and inflammatory fever; or, be mere congestion of the lining of the air-tubes, with increase of their natural secretion, without fever or dyspnoea of any importance.

2. The degree of dyspnoea and fever present vary much; they are more intense

the greater the vigour of the general constitution; bronchitis in such cases is more liable to pass into lobular pneumonia than is that form of bronchitis, though acute, occurring in strumous habits. The bronchitis of measles and scarlatina is attended with intense fever and prone to pneumonic complication.

3. Bronchitis is apt to become chronic in strumous children; and where a predisposition to vesicular emphysema exists, frequent bronchitic attacks during childhood is a most fertile source of that lesion.

4. The pneumonia occurring as the sequela to, or as an aggravation of the bronchitis of infants, is usually of the lobular form; the inflamed portions present changes, different in the several portions so circumstanced (solid, from red or gray hepatization; soft, from the formation of pus, or from sphacelus). Sometimes the pneumonia is of the lobar kind, attended with the same morbid changes, and with phenomena, both general and physical, as in the adult; that following scarlatina and smallpox is usually of the lobar kind: in such cases pleurisy is not unfrequent, especially when the inflamed portion is near the surface of the lung.

5. Expectoration is usually profuse and purulent, though swallowed, and sometimes vomited with other substances existing in the stomach at the time of ejection.

6. The morbid appearances of the lungs and lining of the bronchial tubes have been described most beautifully by West, Rilliet, and Barthex: to the ordinary appearances of congestion and inflammation may be added, deposition of miliary tubercles in children predisposed to such deposition, and œdema of the subpleural areolar tissue, in cases where urgent dyspœa has preceded dissolution.

7. The respirations are increased in frequency, often 40 or 45 per minute; the expiration is usually prolonged; the râles vary in character and degree of audibility according to the size of the tubes over which the examiner is listening, and to the quantity and consistence of their secretion: the following are the chief points of practical importance connected with the râles:

a. Although commixed, the varieties of the mucous and crepitating râles may with care always be discriminated.

b. Mucous râles indicate free effusion into, and thick consistence of the secretion in the bronchial tubes; consequently, more of a congested than of an inflammatory condition of the parts eliciting them: if inflammation has been previously acute, it may be known to be resolving when such râles are audible.

8. Crepitating râles, large and small, indicate scanty effusion into the bronchial tubes, together with more or less complication of the pulmonary parenchyma: the secretion in these instances is thin. These sounds mark either the commencement of inflammation, or such a congested condition of the parts yielding them, that antiphlogistic measures must be resorted to for their alleviation.

9. Mucous râles have always seemed to me to be most audible during inspiration; whilst crepitating are most so either at the end of inspiration, or during the prolonged expiration usually present under these circumstances: this difference may be mainly due to the greater loudness of the mucous râles during inspiration than during expiration:

10. Nothing more will be said in this place on general or physical phenomena present during the bronchitis and pneumonia of infants, further than to state that a large portion of lung must be condensed by inflammation to elicit a readily appreciable dullness on percussion; inasmuch as the lungs of infants are so well permeated by air (except where a mechanical obstruction exists to its ingress) that a small portion of condensed lung is with difficulty defined. Blueness of the lips with general pallor of the surface, indicate a degree of inflammation or extreme congestion, which, if not relieved, must terminate fatally. The prognosis of these affections in children is always uncertain; indeed no rules can be laid down with sufficient accuracy to determine the point. There is so much reparative power in children, that the most formidable symptoms may be present, and yet recovery ensue; on the other hand, the most trivial cases of pulmonary inflammation may prove fatal, not so much *per se* as by a sympathetic effect on the nervous centres, inducing convulsions, coma, and the like. So long as the cutaneous transpiration is kept up, and other organs remain uninfluenced, no apprehension need be entertained. But if the respirations become frequent, the surface pale and dry, the lips livid, and vomiting, coma, or convulsions supervene, the case is nearly hopeless;

though even then, the efforts of the constitution, aided by diaphoretics and active purging, may be effectual in warding off the fatal result. Of treatment it is unnecessary to say much here; my only object is to remark on the efficacy of ipecacuanha, which I believe to be as efficacious as tartar emetic is in the allied affections of adults; acting in a similar manner, and may be given with the same tolerance of action as obtains with that heroic remedy. Children under 12 months will bear half a drachm of the wine every two hours; if the case is urgent, the same quantity every hour; above twelve months, one drachm may be given.

The first and second dose may produce vomiting; this, however, is of no moment; as the distressing effect of, and copious diaphoresis, the immediate consequence of that state, will be attended with most beneficial results.

The medicine (as is the case with tartar emetic) is generally borne with impunity, producing no physiological effects, till, by its therapeutic action on the inflammation, that process has subsided; this is a good index of the state of the inflammation, and a manifestation of the efficacy of the remedy for its removal.

Active purging, sinapisms to the thorax, and the warm bath, must be used as adjuncts; when convalescence is established, the heat of the surface must be preserved by flannel being constantly worn next it.

ART. 82.—*Practical Remarks on Croup.* By Dr. ZERONI.

(*Henle and Pfeuffer's Zeitsch. and various journals.*)

The most ordinary form of croup is *congestive croup*. This form generally occurs at a time when there is a tendency in the weather to induce catarrhal affections, manifesting itself suddenly, generally in the night, and without any precursory symptoms; with the exception, perhaps, occasionally of a slight cold in the head. In this form of the disease, children wake from a quiet sleep with a sharply barking kind of interrupted cough, raise themselves in bed, and begin to cry in apparent distress, a piping hissing inspiration being occasionally heard, as well as in their coughing. The countenance is often flushed and turgescient, but the respiration is not hurried, and but little febrile excitement is perceived in the pulse. When the attack subsides, the child again falls asleep, and rests quietly till the morning; occasionally, however, the attack recurs, respiration becomes more noisy, rattling and hissing, and the child either vomits, or simply makes an effort to do so. This form of the disease requires little more than careful nursing for its cure; the child should be kept in bed, be made to drink copiously of warm drinks, partake freely of some oily emulsion, and have a sponge steeped in hot water laid on the neck. If, however, a hissing hurried respiration causes apprehension of a recurrence of the attack, the most effectual means is to give an emetic, continuing its use until the child has vomited several times. (This form of the disease appears to be induced by a hereditary and acquired predisposition.) To young children during the first year, Dr. Zeroni gives $\frac{1}{4}$ gr. cupr. sulph. every quarter of an hour.

The second form is *inflammatory laryngeal croup*. This is far more serious in its nature, and *never* occurs without premonitory symptoms, or where it may not be referred to the action of some injurious influences. It may have been induced by the preoccurrence of the milder form, or owing to exposure to bad weather immediately after recovery from a former attack. The characteristic symptoms of this second form of croup are as follows: Broken, rough, whistling cough; the inspiration is quick, and has a sharp sound; the child is restless, moves the hands, bringing them frequently to the head and neck. The face is hot, red, or purple, the neck swollen, whilst the pulsations of the heart and arteries are rapid. When the attack subsides, the child becomes strikingly animated, enters into his customary sports, and evinces no desire to lie down or to go to sleep. Respiration after the first attack, and even after several attacks, is quiet and natural; it becomes, however, gradually more hurried and noisy, and a faint rattling is heard, which assumes by degrees a metallic sound. Hoarseness increases, and the voice becomes low and whistling. The attacks come on more frequently, and the child is more restless and irritable during the periods of intermission, whilst the pulse grows fainter and fainter. This uneasiness, however, ceases. The child dozes continually, lies on its back, with

its head thrown back and pressed into the pillow; the throat protrudes, the countenance is drawn, pale, and swollen, somewhat of a bluish or yellowish tinge. The eyes are sunk, and half shut; whatever is handed to the child is impatiently pushed aside, and nothing can induce it to drink. The respiration is loud and rattling, all the muscles of the neck act convulsively, the pulse is frequent and small. The child dies either in this state of sopor, with the symptoms of paralysis, or in the midst of convulsions induced by another choking attack of cough.

This form of disease requires prompt and energetic treatment. No time should be lost in abstracting blood, and no apparent amelioration of the symptoms should hinder the frequent application of leeches, in proportion to the age, until the child begins to evince an appearance of exhaustion from loss of blood. A second important means is cupr. sulph.; from three to four grains of which should at first be given in order to induce vomiting, and the dose should then be reduced to one eighth or one fourth of a grain, every half-hour, or hour, until the disease assumes a favourable turn. Dr. Zeroni also speaks of the invaluable aid he has derived in some cases of this form of croup, but not in any other, from a combination of musk and opium.

Inflammatory tracheal croup.—This is likewise attended by premonitory symptoms, and induced by pre-existing or extremely injurious influences. It generally occurs in the months of February and March. Children catch cold, have a dry, somewhat rough cough, which being often disregarded, they are frequently suffered to expose themselves to cold and damp; the hoarseness and cough gradually increase, but this state often continues for upwards of a week before the occurrence of a fit of choking, and before medical advice is sought. After the first attack the child is often cheerful, and even at times extremely merry. The voice is quite gone, the respiration somewhat hurried, and more or less rattling; the cough not frequent, short, rough, unattended by a whistling inspiration, no expectoration, or if any, merely a white frothy mucus interspersed with a few streaks of blood; the pulse quick, the skin warm, and the urine natural. If the little patients are able to speak, they complain of pain in the neck and the middle of the chest. By degrees the choking fits become more frequent, the respiration more hurried and difficult, and the tone accompanying it rougher and more croaking. Extreme hilarity and the most remarkable movements alternate with excessive lassitude, during which the child sinks down exhausted, falls asleep, exhibiting the most marked disinclination to be spoken to or touched. The cough becomes a noiseless suppressed expulsion of air, the attacks are accompanied by a violent noisy rattling sound, the muscles of the neck become powerfully convulsed, and the head is thrown far back. The pulse is small and quick, the skin drawn, the muscles extremely relaxed, the face swelled and puffy, the lips blue. The child dies in a state of sopor, as if from asphyxia. This form is more fatal to children under two years of age than to those who are older. It is met with in children of six, or even occasionally nine years of age.

The application of leeches is of the greatest importance, since on this depends the result of the whole treatment. If a sufficient number of leeches be early applied to the neck and chest, we may regard the termination of the disease as probably favorable. Emetics do not appear to have much influence here, although they occasionally relieve the respiration.

The fourth form, which is designated by Dr. Zeroni as *aphthous croup*, is the most dangerous, but fortunately also the most uncommon; it has only been observed in autumn, during a continuance of stormy, cold, and rainy weather. It never occurs unattended by premonitory symptoms. The child is somewhat excited, occasionally flushed, and appearing from time to time to have transient febrile symptoms. As, however, it is cheerful, sleeps well, and has a good appetite, these symptoms are too often neglected, and the child is suffered to go out in the damp or cold, until at last it complains of pain on swallowing. On examining the throat, the tonsils are found to be somewhat swollen, reddish, and covered here and there by a yellowish-white puriform investment. The submaxillary glands are swollen. The child continues, however, cheerful, and there is scarcely a trace of fever. The aphthous streaks or points now extend

gradually more and more, approaching each other. On removing part of this investment from the tonsils, we find that the subjacent membrane is of a brownish-red colour, but not dry. Deglutition becomes more painful, but still there is no fever, and it is not till the fourth or fifth day that the symptoms assume a more serious character. Hoarseness comes on, a low singular kind of cough is heard, and occasional oppressive sensations are experienced. The disease soon runs its fatal course, and the child, after several days of indescribable suffering, dies in a state of sopor, under circumstances similar to those of which we have already spoken. A prophylactic mode of treatment seems the only one that is of avail in this form of croup; and, considering the nature of the disease, too much stress cannot be laid on those means of prevention under the control of parents—such as prompt attention to any symptoms of indisposition manifested by young children, and care not to expose them to the open air until all morbid symptoms are entirely removed; since Dr. Zeroni mentions that where once this aphthous affection of the tonsils was established, he never yet succeeded in saving the child; leeches, tartar emetic, and calomel being all without avail. The only means which he considers likely to produce a favorable result, are the external application of caustics, as suggested by Aretæus. Dr. Zeroni considers that this aphthous affection of the tonsils may occur in adults, although in their case he has never observed a fatal result. The disease may manifest itself alone, or conjointly with febrile diseases; but he has not found that in this latter case the local affection rendered any change necessary in the mode of treatment for the main disease.

The fifth form of croup, observed by Dr. Zeroni, is *suppurative croup*. This is invariably found to have been preceded by a fully developed catarrh, and usually occurs at the close of winter and the beginning of spring. It begins with more or less fever, restlessness, insomnia; the cough that was previously loose, becomes dry, rough, and barking, without being attended by a whistling inspiration, or a metallic sound. The cough comes on by fits, during which the child tries to sit up, bends the head forward, and puts its hands to its ears, tongue, or mouth. The attacks are not attended by choking, but cause distress by the continuance of the short broken cough. The child is hoarse from the beginning of the disease, but loses his voice entirely after a time; cases however, occur, in which the cough is at first loose, and the voice clear, but where there is much fever at the beginning of the disease, and even strongly marked delirium occurring at night. Fever gradually increases, the child sleeps almost continually, actual suffocative fits at length come on, the respiration becomes hurried, gasping, and rattling. The child is pale, and appears swollen; and finally, torpor supervenes, with an extremely quick pulse, and profuse perspiration, and the child not unfrequently dies in convulsions.

If the disease is neglected, it generally proves fatal to infants and very young children from the ninth to the eleventh day. In adults it may be prolonged to the fourteenth or eighteenth day; in the latter case the attacks are much more violent. The suffocative attacks which generally supervene on the seventh day are most distressing: the child starts up with violence, tears, scratches, and bites everything it can lay hold of, often tearing its hair and biting its hands; it appears to be in most fearful struggle, and in the height of its agony, the hoarseness suddenly disappears, and it cries in a loud voice for help; the short cough becomes looser, and mucus is expectorated, the fever abates, and finally, the dreadful sufferings of the little patient terminate in symptoms of paralysis.

This form, like the others, demands a prompt and early application of leeches, which must be repeated with a frequency proportionate to the age of the child and the violence of the fever; it is almost the only thing to which recourse can be had, but as soon as the cough becomes somewhat less distressing, and the fever abates, a favourable termination of the disease may be hoped for: occasionally, however, much service is derived from cupr. sulph., given in sufficient doses to produce vomiting; this must be done when the cough and fever have abated, and the suffocative attacks have begun. The above forms of croup are only met with in children, and seldom after their sixth year. Dr. Zeroni scarcely attaches any faith to the opinion entertained by many, of the fatal nature of croup in adults. He says that he certainly has observed all the symptoms of croup most strikingly

manifested in women, but these were found to depend on uterine derangement, and yielded to a mode of treatment adopted with reference to diseases of the latter kind; and he considers that where adults have sunk under croupous symptoms, they must be ascribed rather to œdema glottidis than to genuine croup.

ART. 83.—*Diseases of the Larynx in Infancy; their Diagnosis and Treatment.*
By Dr. BLACHE.

Diseases of the larynx in general are not, it is true, very common in infancy, but the various maladies which that organ can be affected with during the first stage of life present a degree of gravity very different from that which they assume in the adult. On the other hand, croup, or diphtheritic laryngitis, is specially observed in children; its severity is excessive, and it is marked by many symptoms belonging to laryngeal disease. It is, therefore, of the utmost importance to physicians to be acquainted with their diagnostic signs, in order to avoid discreditable errors of prognosis, and in order to be enabled to have recourse to timely measures, and not to be taken unawares by serious and unforeseen circumstances.

Croup is a specific inflammation of the mucous membrane of the larynx characterized by the secretion of false membranes on its surface, and marked by three distinct periods. The first presents the symptoms of angina, the predominant signs being sore throat, accompanied by pain in the anterior part of the neck, and swelling of the maxillary ganglions; at the same time the tonsils are red and swollen, the soft palate, tonsils, and pharynx, studded with small white patches, and the general symptoms are limited to loss of appetite and some febrile excitement. As soon as the larynx becomes engaged in the inflammation, the second period begins; the cough, loud and hoarse, resembles the barking of a dog, or crowing; the voice soon is totally extinguished, and its tone is harsh like the cough. Breathing is accompanied by a sound which recalls to the mind that produced by a saw working its way through a soft stone. At the same time dyspnoea appears, and the hand is carried towards the throat by convulsive action. Remissions often separate the attacks of suffocation, and asphyxia begins. Expectoration is sometimes absent, but occasionally causes the expulsion of false membranes. The third period is expressive of slow or rapid asphyxia, complete aphonia, laryngeal sonorous respiration, convulsive actions of the respiratory muscles, frequency and irregularity of the pulse, throwing back of the head, and extreme paleness, and somnolency. Death supervenes either in a paroxysm of suffocation, or from a sort of calm asphyxia, in a slow and progressive form.

Pseudo-croup, or laryngismus stridulus, deserves, on account of its frequency, to be well known, and to be distinguished from real croup. It is, like the latter, an acute disease, but differs from it by its sudden appearance, and the total absence of premonitory symptoms. It generally shows itself during the night. The child wakes in a state of suffocation, and makes vain efforts to breathe; the eyes are bloodshot, the face red and swollen, and the cough, loud and stridulous, is occasionally of a barking character, or resembles more closely croupal cough, being harsh, stifled, and of a metallic sonorousness. Respiration is sibilous; the inspiration crowing, and expiration usually silent. After the paroxysm, which is never so short as in spasma glottidis, the child falls asleep again, or, if the seizure has taken place during the day, returns to his occupations without preserving any of that sadness which persists throughout in true croup. In serious cases, the paroxysms are as frequent as in croup, but the remissions are complete. In mild cases the symptoms all subside after an alarming attack, the voice is hardly altered, and the pulse is natural. On examination of the throat no false membranes can be detected, nor are the cervical glands enlarged. A simple catarrhal bronchitis follows, and the child gradually recovers. When the case terminates fatally—an uncommon circumstance—cyanosis becomes general, and death occurs after several attacks of suffocation.

Spasma glottidis is an intermittent malady, characterized by very short fits of suffocation, separated by intervals of perfect health. The attack is ushered in by no warning. The respiration is suddenly arrested, as if the glottis was com-

pletely closed; during several seconds the child is threatened with suffocation; the mouth is widely open, the head drawn back, the eyes fixed, the face purple; after ten or twenty seconds, during which respiration has been altogether arrested, the patient quietly draws his breath, the attack being concluded by a convulsive, sonorous, crowing inspiration. In general, five or six consecutive paroxysms are observed; and during the attacks most of the functions experience some transitory disturbance; the pulse becomes quiet and small; the pulsations of the heart irregular; the veins of the head distended, and involuntary evacuations take place. No cough, no laryngeal pain, no change of the voice, no redness or deposits are observed upon the mucous linings of the throat; but a peculiar symptom is noticed, viz., contraction of the extremities. At first the paroxysms are few and far between, but they gradually become more and more frequent, and at last occur every day, and even every hour. The frequent repetition of the symptoms at last occasions a state of general debility and suffering, somnolency makes its appearance, is soon followed by diarrhoea, and the patient dies from the progress of hectic fever, if he be not carried off in an attack of dyspnoea.

Simple laryngitis, presenting for its anatomical characters either redness of the mucous membrane, or ulcerations chiefly upon the inferior vocal chords, is symptomatically expressed by aphonia, or hoarseness of the voice, cough, slight acceleration of breathing, little or no fever, and no symptoms of asphyxia. The dyspnoea does not occur in paroxysms; in its severe forms the pulse is frequent, the face purple, the neck tumefied; at a later period the voice is completely extinct, suffocation is more and more marked, and death takes place from convulsions, or from propagation of inflammation to the bronchial tubes or to the pulmonary tissue.

Edematous laryngitis, whether consequent (as in the adult) upon chronic inflammation of the larynx, or upon a general morbid condition of the subject, as in the dropsy which follows scarlatina, is marked by a difficulty of breathing chiefly appreciable during inspiration; the voice is unchanged, and death is brought on by asphyxia. If the oedema be considerable, it can be detected by the finger introduced into the larynx.

Hence, glancing generally at diseases of the larynx in infants, we may form three groups: in the first the nervous system is primarily affected (spasmodic glottitis); in the second the nervous and inflammatory elements are combined in tolerably equal proportions, as in laryngismus stridulus; in the third it is the degree of inflammatory action which constitutes the chief peril. A fourth group might be formed of those maladies in which the nervous element is altogether absent, as in simple laryngitis. These classifications naturally lead us to establish the treatment upon a rational basis. Spasmodic glottitis, an exclusively convulsive disorder, will require for its treatment antispasmodics, amongst which we will chiefly mention oxide and cyanide of zinc, assafoetida, musk, cherry-laurel-water, &c. In pseudo-croup, or laryngismus stridulus, in which the nervous and inflammatory elements combine, we might be induced to suppose that antiphlogistic remedies would be of considerable service. Experience does not, however, confirm this view; at the Hôpital des Enfants bloodletting is not in these cases found to be beneficial, and we greatly prefer the administration of ipecacuanha. If the disease be complicated with diphtheritic angina, all hesitation should be at an end, and the cauterization of the throat, with a solution of nitrate of silver (one third or one fourth to three or two parts of water) should be combined with the exhibition of emetics. In these maladies, as well as in edematous laryngitis, where suffocation is imminent, tracheotomy should be performed. As to simple laryngitis, its danger mainly depends upon the propagation of inflammation to the bronchi and lungs. Emetics and counterstimulant treatment should be put in requisition.

ART. 64.—*Treatment of the Diarrhoea of Infancy.* By Dr. WEST.

(*Medical Gazette*, July 14, 1848.)

In his treatment of the intestinal affections of infancy, Dr. West shows great powers of discrimination and therapeutical application. In the simple form he

relies greatly on a well-regulated diet; but if the evacuations are abundant, but fecal and unattended with tenesmus, he gives to a child a year old a mixture containing

R *Magnes. sulphatis*, 3j;
Tinct. rhæi, 3ij;
Aque carui, 3vij.

Dose—a teaspoonful every six hours.

In the diarrhœa of teething, he lances the gums where gingival tumefaction is very decided, but otherwise thinks the operation a needless infliction. In this form, instead of the saline mixture, he employs small doses of ipecacuanha combined with an alkali, from which he has derived great benefit. Three or four drops of liq. potassæ, and the same of vin. ipecac., are given in a little mucilage every four hours; and at the same time a powder of one grain of Dover's powder and one of hyd. c. creta is given at night. The warm bath is also an useful adjuvant.

Where astringents are required, he gives the preference to the extract of log-wood in combination with tincture of catechu, which is a valuable tonic as well as astringent. If the motions are slimy, he continues the night powder. If there is much acidity, a little soda is added to the astringent mixture.

In inflammatory diarrhœa Dr. West seldom considers depletory measures to be called for, but if leeches are used, he advises great caution to prevent unnecessary loss of blood. In these cases, if there is no great irritability of stomach, he thinks highly of small doses of castor-oil and laudanum, as below.

R *Ol. ricini*, 3j;
Palv. acac., ʒj;
Syrup. simp., 3j;
Tinct. opii, ℥ iv;
Aque aurant. flor., 3vij.

A teaspoonful every four hours.

Tenesmus is treated by laudanum and mucilage enema. Speaking of the still more severe forms of diarrhœa, the author's remarks are as follows:

"There are some cases in which, after the disease has passed its acute stage, it still retains much of its dysenteric character; the bowels not merely acting with undue frequency, but the evacuations containing mucus, pus, or blood, and their expulsion being attended with very considerable tenesmus. The strength in such chronic cases is very greatly reduced, and emaciation goes on to a greater degree than in almost any other affection, with the exception of phthisis and mesenteric disease; while the bowels are excited to almost immediate action by even the simplest food. The treatment of these cases is attended with considerable difficulty; recovery, when it does take place (and it is consolatory to know that it often does, even from a condition apparently desperate), is brought about very slowly, and each remedy employed seems speedily to become ineffectual. Throughout their course two objects are to be borne in mind: one being to check the diarrhœa; the other to support the child's strength during the time required for nature to effect the cicatrization of the ulcerated mucous membrane, and to restore it to a state of health. The utility of mercurial preparations has appeared to me to be almost exclusively confined to the early stage of dysentery, and to cease when the disease has passed into the chronic form. On the other hand, astringents may now be employed with the most marked benefit, and, when one fails, another may be substituted for it. In cases where the stomach has been very irritable, so that almost everything taken has been speedily rejected, I have sometimes employed the gallic acid in combination with laudanum, and have seen much benefit follow from its use. At other times I have given the acetate of lead likewise with opium—a combination which, notwithstanding that decomposition takes place, yet retains its efficacy when given in the form of mixture. The sulphate of iron combined with opium is another highly useful remedy in these cases, and appears to have this advantage over the sulphate of zinc, which has likewise been used in similar cases,—that it does not excite the same irritability of the stomach.

Our remedies are not to be confined to those administered by the mouth; for much may be done towards relieving the symptoms and curing the disease by

suitable enemata. In some cases of unmanageable diarrhoea, M. Trousseau employs an enema of nitrate of silver in the proportion of a grain to an ounce of distilled water, with very good effect. I have never employed it, but have sometimes used the gallic acid as an enema, though not sufficiently often to be assured of its efficacy."

[The author concludes with directions as to diet, in which he advises weak animal broths in preference to farinaceous articles.]

ART. 85.—*On the Vaginal Discharges of Children.*

By R. C. GOLDING, M. D.

(*British Obstetric Record*, No. 15.)

The object of this communication is to consider the discharges from the genitals of female children, and to connect them with certain derangements of frequent occurrence with which they are associated.

On true gonorrhoea and noma of these parts it is not intended to dilate: suffice it, they are only of occasional occurrence, are most acute in their character, are characterised by well-marked symptoms, and are for the most part readily recognisable from those discharges—usually mucous—which mark certain chronic derangements of the general health.

The latter, though denominated vaginal, really proceed from the mucous membrane of the external generative organs, rarely coming from the vagina beyond the hymen.

These discharges depending on increased secretion from the vulva, consist of mucus, rarely of pus, unless the exciting agency be long kept up, or be of great intensity.

The strumous diathesis is the most usual predisponent of these affections: in such habits the mucous membranes of the natural outlets, where they join the common integument (as also the thinner portions of the latter), are peculiarly prone to inflammation, or to such frequent congestion, that the normal secretion of these parts becomes increased, and of such acrid quality, that the discharges consequent on such conditions perpetuate by their acrimony the lesion immediately inducing themselves.

Such is a characteristic of the mucous membranes and certain portions of the skin in strumous individuals, and is exemplified in the following diseases so often seen in such habits: ophthalmia tarsi, chronic inflammation of the Schneiderian membrane of the nose, aphthæ, and simple stomatitis of the buccal mucous membrane, chronic cynanche tonsillaris, eczema impetiginodes of the softer parts of the skin, strumous inflammation of the external auditory meatus, and of certain acrid discharges from the vulva.

Among entozoa, (also most prevalent in scrofulous children,) ascarides are frequent: the irritation of the ascaris vermicularis in the rectum, with uncleanness, is commonly the immediate cause of these discharges. The scrofulous diathesis is the most fertile predisposing cause, whilst the irritation of entozoa in the lower bowels, with uncleanness of the parts themselves, are the most usual exciting causes of these diseases. The condition of the parts themselves may either be inflammation, when pus will be added to the mucus in the discharge, or, as is more usual, mere congestion: the secretion in both cases is abundant, acrid, and, if not removed, keeps up the irritation of the parts thus implicated.

The discharge proceeds from the mucous follicles with which these parts are abundantly provided (especially the vestibule and inner part of the nymphæ), as well as from the Cowperian glands. The symptoms attending these discharges vary with the intensity of the exciting cause, and to complications: thus ardor urinæ may be present from sympathetic irritation of the urinary mucous membrane, or painful parturition, from the passage of the urine over the external parts. Intestinal entozoa usually coexisting, there are many symptoms present due to their presence—irritation of the anus, restlessness, depraved (often ravenous) appetite, convulsions, and fetid ejections; phosphatic urinary deposits are often present; fever may exist, with aphthæ of the mouth, and

strumous eruptions: these, when existing, complicate the case, and render its issue doubtful.

In gonorrhœa, the local symptoms are more urgent than in the instances just detailed: there is redness and swelling of the parts, with purulent discharge from the vagina beyond the hymen; whereas, in ordinary cases, the local symptoms are usually less distressing than are the constitutional, being in a direct ratio to the urgency of the latter.

When, however, gonorrhœa becomes chronic, the gluey discharge, though capable of generating itself when applied to other mucous surfaces, is so similar in physical characters to the ordinary redundant discharges of the same parts produced by other causes, that no difference is appreciable. The prognosis will be according to the length of time the discharge has lasted, and to the state of the system attending it. When of lengthened duration, the discharge may be so profuse that great debility may be induced; this, superadded to the strumous diathesis usually present, as well as to other concomitant affections, may lead to serious apprehension, tubercular deposition in the lungs and lymphatic glands being apt to supervene.

The treatment must consist of frequent ablutions with tepid water, so that the discharge may be removed as soon as eliminated, and thus cease to be a source of irritation. Mild astringent lotions may also be used; but, in most instances, tepid ablution is all the topical treatment necessary, inasmuch as the complaint either has a constitutional origin, or is kept up by constitutional causes, no means purely local will suffice.

Of hygienic and regimenal measures,—disregard of which is usually the cause of the production of this and other diseases in scrofulous subjects—warm clothing and bathing, sea bathing, when admissible, a plain, nourishing diet at regular intervals, moderate exercise, and plenty of sleep, are indispensable, both as preventive and curative means.

Of medicines, active purging with jalap, scammony, and calomel, with the infusion of quassia and dilute sulphuric acid administered as a tonic and vermifuge, are all which in most cases are needed, if used in conjunction with the hygienic and regimenal means mentioned above.

APPENDIX.

Synopsis of the Methods of Treating Asiatic Cholera, recommended by recent Writers.

1. *Dr. Graves*: No faith in mercury. A scruple of acetate of lead with one grain of opium, divided into twelve pills; one to be given every half hour till the discharges diminish.

Clinical Lectures, 2d Ed. vol. i, p. 419.

2. *Dr. Wood, Philadelphia*: Calomel and opium, in small, repeated doses; acetate of lead, kino; cold water to drink; external warmth; diffusible stimulants.

Treatise on the Practice of Medicine, vol. i.

3. *Dr. Parkes*: First stage, blood-letting sometimes; acetate of lead, two to three grains, with a quarter of grain of opium, every half hour for two or three hours; external warmth useless; large doses of calomel injurious; mustard poultices to epigastrium; cold drinks; diffusible stimuli. In collapse, bloodletting sometimes relieves. No treatment to be relied upon.

Researches on Algid Cholera.

4. *Dr. Milroy*: External warmth; saline emetics, as salt, one table-spoonful in a tumbler of water; turpentine stupe; salt or turpentine enemata; calomel when the vomiting has abated.

Pamphlet on Quarantine, 1847.

5. *Mr. Bell*: Bloodletting, if seen in three or four hours from invasion; quinae disulph. grs. xij; ferri sulphat. grs. ix; aquæ Oiss. Dose not stated.

Medical Gazette, Jan. 1848.

6. *Dr. Black*: Small bleeding in stout subjects; calomel and croton oil repeated three times; then calomel with capsicum; enemata of warm water.

Prov. Med. and Surg. Journal, Jan. 26, 1848.

7. *Dr. King*: Cold water *ad libitum*; large doses of calomel.

8. *Dr. Turnbull*: Capsicum embrocations.

Lancet, Jan. 29, 1848.

9. *Dr. Arthur Wilson*: Warm mustard emetic; venesection where possible; neutral non-aperient alkaline salts; inhalation of oxygen.

Lancet, Nov. 4, 1848.

10. *Dr. Ayres*: Two grains of calomel and two drops of laudanum every ten minutes, as long as collapse lasts.

Lancet, Oct. 7, 1848.

11. *Dr. Henriques*: Quinine in large doses, in all stages; stimulant embrocations; injections of decoction of bark.

12. *Mr. Allen*: Large doses of calomel at the commencement; bleeding occasionally; mustard poultices to the spine and abdomen; enemata of hot salt and water.

Lancet, Oct. 21, 1848.

13. *Dr. McCann*: Mustard emetic; brandy and laudanum, and calomel and opium; stimulant embrocations.

Lancet, Oct. 21.

14. *Mr. Hird*: Mustard emetics, followed by acetate of lead and opium; stimulating apothems.

Lancet, Oct. 21.

15. *Mr. Jenkins*: Strychnia, gr. j; conserve of roses sufficient to form eighteen pills; one every quarter of an hour.

16. *Mr. Beaman*: Salt emetics; external warmth; then carbonate of soda in effervescence with lemon juice; external warmth.

Lancet, Sept. 2.

17. *Mr. Hancorn*: Emetics; diffusible stimulants, as ammonia, capsicum; hyd. c. creta; tinct. ferri sesquichloridi in concentrated form after every motion; sulphuric acid embrocations; hot-air bath.

Lancet, Sept. 9, 1848.

18. *Dr. Radcliffe Hall*: Five grains of tartar emetic in half a pint of camphor mixture; an ounce every two hours, till tolerance is affected.

19. *Mr. Brady*: In premonitory stage, ol. ricin. ℥ij. chloroform. ℥vj. tinct. opii, ℥xx; aquæ menthæ, 3iss; f. haust. If reaction ensues, external warmth, sinapisms, and following draught and pill, repeated according to circumstances.

R Chloroformi, ℥vij,
Sp. vin. gall., ℥ij,
Aquæ, 3ij. f. Haust.

R Fellis bovini, gr. iv,
Hyd. chlor., gr. iij. f. Pil.

Chloroform embrocations to the spine.

Medical Times, Oct. 14.

20. *Dr. Shearman*: Bloodletting, followed by transfusion of blood; respiration of oxygen and atmospheric air; tartar-emetic treatment.

Medical Gazette, Oct. 14.

21. *Dr. Paterson*: Rathkeale; Five grains of calomel, with thirty drops of laudanum, every four hours; then an enema, consisting of sulphate of copper, sulphate of zinc, and alum, a scruple of each in two ounces of cold water; a wine-

glassful thrown up every few minutes till retained; after retention for half an hour, a large warm-water injection.

Dublin Medical Press, Sept. 20.

22. *Dr. Cowan*: Thinks well of bleeding in robust persons; stimulating emetics; calomel and opium; effervescing salines *ad libitum*; external warmth.

Prov. Med. and Surg. Journal, Nov. 1, 1848.

23. *Sir James Murray*: A wineglassful of his fluid of camphor every ten minutes, with a few drops of laudanum, inflating the lungs with electrified air; galvanic discharges through the respiratory and spinal nerves.

Lancet, Nov. 4, 1848.

24. *Mr. Marsden*: Calomel and ginger; with powders of common salt, ʒij, carbonate of soda, ʒj, oxymuriate of potassa, gr. viij, every quarter of an hour till reaction ensues; hot salt baths; warm saline emetics.

Lancet, Nov. 4, 1848.

25. *Dr. Willemin and M. Moreau*: Cannabine, the active principle of Indian hemp. The preparation a tincture of the strength of one grain to ten drops of alcohol; dose, ten to fifteen drops.

Lancet, Nov. 4, 1848.

26. *Dr. Hill*: Place the patient in a warm bed; give internal stimulants; friction with warm flannels; external heat; chloroform inhalations repeated at intervals.

Lancet, Nov. 4, 1848.

REPORTS
ON THE
PROGRESS OF THE MEDICAL SCIENCES.

July—December, 1848.

THE intention of the following Reports is to pass in review the principal additions to each department of Medical Science, which have been placed on record during the preceding six months. It is not contemplated that they should be confined exclusively to the notice of what is new; any fact or doctrine which may be considered practically useful, will, although not strictly novel, be regarded as worthy of commemoration. It must be obvious to all who are aware of the immense mass of information which is almost daily put forth by the medical press of this and other countries, that the notice of every subject would be an impossibility. It therefore devolves upon the writers of each Report, to select only such articles for retrospection as may possess superior recommendations, either of an intrinsic character, or in relation to the main end and aim of all medical knowledge—the alleviation of suffering and disease.

I.

REPORT ON THE PROGRESS OF PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

BY THE EDITOR.

PART I.—GENERAL PATHOLOGY.

As faithful chroniclers of the progress of Medical Science, it is our duty not only to notify the advance of each and of all its departments, but also to remark upon any arrest in the stream of improvement when such is observable. We feel, therefore, bound to state that the semestrial period upon which we have now to report has been more than commonly unpropitious in the department of practical medicine, so much so, indeed, that it has not been without difficulty that we have been able to select from the numerous sources at our command sufficient valuable matter to make up our ordinary number of pages. This deficiency is to be accounted for partly by the fact that the attention of the profession has been lately directed into other channels by the attraction offered in the subjects of ether and chloroform inhalation; but it is mainly due to the falling off observable in the foreign journals, the greater portion of which have been chiefly occupied by surgical communications arising out of the events by which the Continent has recently been, and is at this moment, disturbed.

—Among the newly published works which have reached us for notice in the present Report, we would make particular mention of a 'Treatise on the Practice of Medicine,' 2 vols. 8vo, by Professor Wood, of Philadelphia, as a production of no ordinary merit. It may be safely stated to be, for comprehensiveness and careful digest of matter, second only to the herculean labours of Dr. Copland, and has the advantage, not always perceptible in similar works, of being brought up strictly to the knowledge of the day. It must not, however, be looked upon solely as a compilation, for although, as must of necessity be the case, it is a digest of the opinions of the most reputable authorities, it is also enriched by the record of the actual experience of a physician whose opportunities of observation have extended over a period of thirty years, and who enjoys the reputation of being one of the most skilful and scientific practitioners of our sister country.

—We have also, through the politeness of the publisher, an opportunity of directing the attention of our readers to a second edition of Dr. Graves's Clinical Medicine, issued under the superintendence of Dr. Moore Neligan.* The reputation which these lectures have already attained is such that a further tribute of praise is almost unnecessary, but we should not be doing justice did we not state that, by the judicious alterations in the arrangement of the old text, and the introduction of several lectures not included in the past edition, the present volumes have been much enhanced in value. Among the latter, as of direct interest at the present moment, we would particularly allude to the author's lecture on cholera. The lectures on fever, which constituted so valuable a portion of the original volume, have also been much altered in arrangement, and extended by a history of the late epidemic. In fine, every subject treated of has the advantage of being perfected by the experience of the author subsequent to the publication of the first edition.

* Clinical Lectures on the Practice of Medicine, 2d Ed 2 vols. 8vo.

§ I.—Zymotic Diseases.

1. *Typhus and Typhoid Fever, Diagnosis of.*—The readers of the 'Half-yearly Abstract have, at various times, been made acquainted with the discussions at home and abroad upon the identity of typhus and typhoid fever. In addition to the opinions mentioned in former Volumes, we shall here adduce those of two of the latest writers on the subject, Dr. Wood and Dr. Wilshire.

Dr. Wood, whose opportunities of witnessing the two forms of fever have been such as are afforded only in America, where they both rage with nearly equal intensity, expresses himself as follows on the means of distinguishing them:

"Typhus fever less frequently commences insensibly than enteric (typhoid), and is upon the average of shorter duration. Instead of diarrhoea, or the susceptibility to purgatives, which attend the latter disease, there is usually constipation; and the fecal discharges are darker and more offensive. Hemorrhage from the bowels, which is not infrequent in the advanced stages of enteric fever, seldom occurs in typhus. In this complaint, epistaxis at the commencement is less frequent, there is more stupor, and a darker colour of the face, more turbidness of the conjunctiva, and greater debility. The eruption in typhus also differs from that of enteric fever. It generally commences earlier, is not elevated, is of a darker hue, does not so readily disappear under pressure, is much more abundant, and, instead of being confined to the abdomen and chest, is diffused over almost the whole body. In typhus, the abdomen is often flat, and perfectly free from tympanitis; which is never the case in enteric fever.

"The anatomical characters of the two fevers are very different. The peculiar disease of the glands of Peyer, and of the mesenteric glands, so constantly present in enteric fever, is never found in typhus, or so seldom, as to lead to the suspicion of an intermixture of diseases when it does occur. The spleen is less frequently enlarged and softened in typhus.

"Enteric fever almost never attacks the old, who are frequent victims of typhus. The former disease is endemic in various countries, arises here and there without obvious cause, and, if ever contagious, is very feebly so; while typhus seldom occurs in isolated cases, is always contagious, and often epidemic."

Nevertheless, the author admits there are cases of a mingled character, in which the elements of the two fevers may be supposed to coexist.*

—The observations of Dr. Wilshire, which occur in the course of his valuable lectures on the diseases of infancy, are recapitulated briefly in the following tabular arrangement:

Typhoid Fever, Adynamic Fever, Asthenic Fever, Low Fever, &c. of France and Great Britain, &c.

True Typhus, Contagious Typhus, True Maculated Fever of Great Britain, &c. &c.

NOT INFECTIOUS.

Cutaneous eruption often wanting; does not appear so early; more of the nature of petechiæ; does not disappear under pressure; no true exanthem.

Cerebral symptoms not appearing early; not so frequent.

Course prolonged, fifteen to thirty days; relapses common.

Not common before fifteen years of age, not after fifty.

Attacks those predisposed to a febrile affection by exposure, vicissitudes, or is sporadic.

May occur under milder grades of the causes of typhus, or entirely without them; is sporadic.

Derangement of alimentary canal constant; important alterations connected with the intestinal follicles found; spleen large; intestinal perforation frequent.

EMINENTLY INFECTIOUS.

Cutaneous eruption a true exanthem; different from petechiæ, which may accompany it; former of a reddish-pink colour, disappear under pressure, soon to return on removal of it; sometimes dark, like measles, and not removable by pressure.

Early delirium, stupor, or phthomania.

Period of crisis about fourteenth day; relapses unfrequent.

Children often attacked when the disease is epidemic.

Generally presents itself as an epidemic, and may attack any one coming within its sphere.

Caused by the same—by famine as a predisposing cause; epidemic.

Post-mortem results often negative, and when lesions are present, they bear no comparison with the severity and rapidity of production of those of typhoid fever.†

* Treatise on Practice of Medicine, vol. i. p. 246.

† Lectures on the Diseases of Children.—Medical Times, May 20, 1848.

2. *Typhus Fever, Exanthematous Nature of.*—Contrary to the opinions expressed by the writer last mentioned, Dr. Williman has endeavoured to prove that typhoid fever is a true exanthem, and as such should be placed in the same category with other eruptive fevers. He bases his opinion upon their similarity in the fact of incubation, in the presence of a distinct eruption, in its prevalence consentaneously with other eruptive diseases, and, like them, in the subjects of it becoming exempt from a second attack. The analogy is further exemplified in a comparison of their respective pathological lesions.*

3. *Influence of Warm Baths in Typhoid Fever.*—In former Volumes we have given evidence of the great advantages to be derived in the treatment of fever from the external use of cold water, the results of which have been a more speedy restoration of the functions of the skin, and a proportionately rapid amelioration of the general symptoms of the disease. The same object, viz. the restoration of the cutaneous functions, is aimed at by the employment of warm baths; the utility of which is much insisted upon in a recent memoir by Dr. Hervieux.†

It would be a needless occupation of space to give this author's observations *in extenso*, as the subject is treated with the discursive verbiage characteristic of many of his countrymen's writing; but it may be stated briefly that, under the use of tepid or warm baths, repeated daily or oftener, according to circumstances, he has noticed that the pulse improves in volume and softness, at the same time that its frequency diminishes, that the cerebral excitement is allayed, the tongue becomes moister, and, finally the skin becomes more supple, and perspirable.

4. *Typhus Fever, Convulsions in.*—Mr. Aitkin relates five cases of fever occurring within a period of twenty-one days, all of which proved fatal by convulsions. The author hesitates in fixing upon an explanation of so unusual an occurrence, but is inclined to associate it with the presence of morbid matter in the blood.‡

5. *Congestive Fever.*—This fatal form of fever, happily unknown in our country, is the subject of an essay by Dr. Lavender.§ Congestive fever, or "pernicious" fever, as it is called by Dr. Wood, is a form of disease in which the vital powers are depressed by the miasmatic poison to a degree in the great majority of cases incompatible with successful reaction. In its access and antecedents, Dr. Lavender observes that it is not to be distinguished from ordinary intermittent; but when once set in, there is a greater amount of vital prostration and præcordial anxiety. His general description of the symptoms, which is for the most part identical with that given us by Dr. Wood, (Op. cit.), is as follows: There is great thirst, with a tormenting sense of internal heat; the surface is cold, and bedewed with perspiration; the countenance is expressive of alarm; the pulse small, or almost imperceptible; there is vomiting and diarrhœa; and, in fact, the disease in many respects closely resembles algide cholera. Death takes place either by coma or convulsions. The fatal moment is sometimes delayed by the free use of stimulants, and at other times partial reaction takes place, and the skin becomes warm: but soon another paroxysm ensues, and the patient is again collapsed. A third paroxysm, according to Dr. Wood, is invariably fatal.

In order to arrest so formidable a disease, the promptest treatment is required. The various remedies are spoken of in succession by Dr. Lavender. Bleeding requires great caution, and should, he observes, be always combined with the use of stimulants; but, on the whole, he condemns loss of blood, whether general or topical; in which opinion he is energetically supported by Dr. Wood. The author further alludes to a condition which is very likely to betray the inexperienced practitioner into bleeding. This is when the congestive attack having yielded to quinine, the surface becomes warm, the pulse full; there is at the same time a feeling of restlessness and apprehension, with headache. If the attendant is induced to take blood under these circumstances, the author considers that fatal collapse will be induced to a certainty, either immediately or a few hours after.

* Charleston Medical Journal, July, 1848. † Archives Générales, April, 1848.

‡ Monthly Journal, June, 1848.

§ Amer. Journ. of Med. Science, July, 1848.

The great remedy is quinine in large doses. The author states that from 5 to 20 grains should be given every hour, until its characteristic effects are produced, or amendment declares itself. Dr. Wood gives 2 grs. calomel, 2 grs. quinine, and 2 grs. opium every hour, alternating with acetate of lead, kino, and opium, and combined with external warmth. When an interruption or remission is thus obtained, his practice is to get down from 30 to 60 grains of quinine before the period of the next paroxysm. If the stomach is too irritable to bear it, he gives it per anum in double the quantity. (Op. cit. p. 295.)

The nature of this fatal fever is a matter of doubt, even amongst those who have the most frequent opportunities of witnessing it. Dr. Wood shows good reason for believing that the miasmatic poison in some manner destroys the balance of innervation, and that to this loss of previous power the congestion and other symptoms stand in the relation of consequences. (Op. cit.) The same view is substantially maintained by Dr. Bartlett.*

6. *Paludal Cachexia*.—In connexion with marsh fevers, we may briefly allude to a communication by M. Duclos on the peculiar state of system to which the paludal poison gives rise, and which he calls paludal cachexy. This condition, he states, declares itself in two ways—coming on gradually and insidiously, or as the result of repeated attacks of intermittent. In either case its effects are much the same, and consist in the gradual decadence of the functions, flaccidity of the muscles, pallor of the skin, and debility, to which, as the impression becomes more profound, are added, anasarca, and effusions into the serous cavities.

Of these symptoms, the pallor and debility are generally the first in the series. The skin and mucous membranes put on the appearance of confirmed chlorosis, the appetite diminishes, and, finally, the dropsical symptoms appear. Simultaneously with these, certain changes take place in the liver and spleen. Hypertrophy of the spleen is almost a constant phenomenon; the same state of the liver is not so frequent. In seeking an explanation of these different phenomena, M. Duclos states his belief that the starting-point of the disease is an alteration in the blood, consisting in a loss of globules, with positive increase in the proportion of water. In what manner paludal emanations operate in inducing these changes he does not attempt to decide. The treatment consists in removal of the patient from the marshy district, with the exhibition of quinine and calybeates.†

7. *Antagonism of Intermittent and Phthisis*.—An elaborate memoir has been published by M. Renzi, in elucidation of the question of the mutual exclusion of the above diseases, the reality of which is maintained by many. The author, who has been at some pains to gain information from physicians residing in marshy localities, determines that there is no foundation for the opinion.‡

8. *Cholera*.—In a former page (p. 180) we have given a few of the numerous methods of treating this disease which have recently appeared. From them we can draw but one conclusion—that the disease is not one whit better understood now than in 1832; and that our treatment of it will be as grossly empirical as at that period. Government has decided, apparently to its own satisfaction, that the disease is not contagious, but with rare consistency enforces quarantine as strictly as heretofore. Should the disease again be rife among us, which there is too much reason to fear will be the case, we trust, for the credit of our profession, that it will be studied in a more philosophical manner than has yet been done, and that men will abstain from rushing into print with their one or two cases *cured* (?) by this thing and the other thing, but rather wait till the accumulation of their facts shall give them justifiable data for forming an opinion.

—In Dr. Graves's Clinical Lectures (2d edition), the distinguished author has included an elaborate and faithful history of the rise and progress of this pestilence during its last outbreak; in the course of which he gives the strongest evidence of its contagious nature.

With respect to the treatment, the author's experience may be summed up in

* Fevers of the United States, p. 532.

† Encyclograph. des Sciences Médicales, Avril, 1848.

‡ Gaz. Méd. 31, 1848.

a few words. He, at first, tried the calomel plan; but finding it utterly fail, he was induced to make trial of the acetate of lead, from which he derived the best results. His plan is to give one grain of the acetate with the twelfth of a grain of opium every half hour, till the discharge from the stomach and rectum began to diminish.*

—Among the host of medicines employed in the treatment of cholera, there is none, presuming the evidence to be trustworthy, which has appeared more flattering than chloroform given internally and by inhalation. Of the former mode of exhibition, cases are recorded by Mr. Brady† and Mr. Stedman.‡ In the former instance the patient was in an advanced stage of collapse, with excessive spasm, when the narrator gave a draught consisting of 20 drops of chloroform, and the same of turpentine in brandy, with the effect of relieving the thirst, and tranquillising the irritability of the stomach and bowels; a second dose was followed by decided symptoms of reaction, which ended in recovery. As soon as the stomach was quieted, a pill, consisting of five grains of calomel and oxgall, was given.

Mr. Stedman's case was equally severe, and equally successful under the same treatment. (See Abstract, p. 25.)

—The evidence in favour of the inhalation of chloroform is of the most flattering kind. Dr. Hill§ states that he has employed it in the Peckham Lunatic Asylum, in ten cases, with the most complete success; in one who was fast sinking it was used with the abatement of every bad symptom. Time will speedily show whether these results are confirmed by other observers; if so, Dr. Simpson, as the discoverer, will be entitled to a still higher meed of praise than has yet been accorded to him.

—An important fact has been elicited from the examination of choleraic blood by Dr. Garrod, viz. the large amount of urea which it contains, larger than in any case of Bright's disease which he has examined. This disclosure might have been anticipated as a consequence of the suppression of urine, but, to the best of our belief, it had not been previously demonstrated.

9. "*Ochlesis*."—Dr. George Gregory has recently made a communication, the object of which is to give a brief sketch of the evils which result from the accumulation of a vast number of sick persons under one roof. The author designates the general condition of disease produced under these circumstances by the term "*ochlesis*," derived from *ὄχλος*, a crowd. The normal type of the disorder is erysipelas of the face; but there are a vast number of allied affections which appear at different times with it, either separately or in combination. These are, erysipelas of the extremities, especially affecting wounds or sores; tracks of erythematous redness, following the course of the chief absorbent trunks, and terminating in abscesses; cellular inflammation of the lower limbs, or phlegmasia dolens; cellular inflammation of the neck, leading to abscess, cynanche, otitis, glossitis; inflammation of the joints, terminating in purulent effusion; spontaneous gangrene of the genitals and of the extremities; gangrene supervening upon wounds or sores; spontaneous gangrene of some portion of the trunk of the body, especially in new-born children; gangrene of the umbilicus. Instances of pure fever, of a low type, from the same source, are not uncommon. Diarrhœa sometimes is the result, from the mucous membrane of the bowels becoming affected; and in the wards of lying-in hospitals the "*ochletic*" miasm expends all its virulence on the peritoneum. The author has seen an asthenic form of laryngitis produced by the same cause, and believes that the pneumonia which springs up in hospitals has likewise its source in the contagious ochletic miasm. This miasm too, he thinks, produces the excessive depression which attends the worst cases of sea scurvy, and he has seen it occasion, in the Smallpox Hospital, a state resembling, in all respects, scurvy itself. All the disorders originating in the ochletic miasm are characterised by a low condition of the *vis vitæ*, and intractability. The experience of the Smallpox Hospital during many epidemic visitations, especially in the years 1842, 1844, 1847, and 1848, has convinced the author of the fact, that all the

* Op. cit. p. 419.

† Medical Times, Aug. 12.

‡ Ib. Aug. 23.

§ Reported in Times of Oct. 30; in Lancet, Nov. 4.

diseases which he has enumerated may arise from the same miasm. Contagious peritonitis is perhaps the only form of the ochletic malady that he has not seen at that hospital during the last twenty-five years; but he regards it as quite certain that this is "part and parcel" of the same disease. The chief agent in the production of ochlesis is, certainly, the crowding together of the sick in one spot; but matters are made much worse by unfavorable locality, by dampness of the surrounding soil, imperfect drainage, or choked sewers, by deficient ventilation, by the character of the cases congregated, by neglect of personal cleanliness, by the employment of unpurified bedding, and by inefficient purification of the wards. Since, however, the ochletic miasm is evolved only at certain times, a peculiar, but unknown, condition of the atmosphere must concur towards the actual result. The ochletic miasm appears to attach itself strongly to the walls and floor of the apartment,—hence the use of covering the floor with a mixture of quick-lime and water, of lime-whiting the walls, of fumigating with nitric acid or chlorine, &c. The great means of checking the development of ochlesis, however, is to restrict the admission of patients, and to leave the infected ward unoccupied for a certain time.

10. *Hydrophobia*.—We embrace the present opportunity of laying before our readers the more recent contributions upon this obscure subject. In the first place, we shall notice certain experiments on the action of saliva by Dr. Wright of Birmingham, the bearing of which upon the etiology of this dreadful malady will at once be evident. We quote from a review of the German edition of Dr. Wright's work on the Saliva, in Forbes's 'British and Foreign Medical Review,' Jan. 1847; the first experiment is thus described:

"Four drachms of slightly alkaline saliva, sp. gr. 1.010, were ejected into the right external jugular of an old mongrel dog. Immediately after the fluid had passed, the animal uttered a loud yell, and struggled violently; the heart palpitated with vehemence, and respiration became very hurried and irregular. When six minutes had elapsed, and the severe effects had subsided, other four drachms of saliva were injected. The heart's action again became so quickened that I was unable to number its beats; the pupil was contracted; the abdominal muscles underwent a long spasm, and there was slight convulsion of the whole frame. At the expiration of ten minutes, the injection was repeated; it had the effect of increasing, but not remarkably, the action of the heart and lungs; the spasm of the abdominal muscles again returned, and a quantity of bile and frothy mucus was ejected by vomiting. When thirteen minutes and a half had elapsed, an abundance of turbid urine and feces mixed with blood were passed; severe tenesmus succeeded, accompanied also by slight priapism. At the expiration of twenty-five minutes, when the system was comparatively calm, the pupil a little dilated, but sensible to light, and the heart beating seventy-two strokes per minute, I injected the remaining four drachms of saliva into the vein. The symptoms which attended the first injection instantly recurred, but with increased violence, and continued, with trifling remissions, for nearly four minutes, after which time their severity subsided. At the end of forty minutes, there was slight convulsion of the whole frame; an offensive slimy dejection was passed, to all appearance involuntarily; and shortly afterwards, about half a pint of bloody urine escaped in a similar manner. When three hours had elapsed, the animal seemed to be tolerably calm and comfortable; he ate a little meat, and lapped milk and water; he was then left for the night.

"It was observed on the following morning that he had made a great quantity of water, and that he had been purged and vomited several times. He now looked drowsy and stupid; his eye was dull, watery, and injected; he was disinclined for sport and exercise; he ate little, but drank abundantly; respiration natural; pulse 86.

"In three or four days the animal recovered his usual hearty and lively habits, and little notice was taken of him until the morning of the fifteenth day succeeding the experiment, when he was observed to look drowsy and dejected; his eyes were peculiarly downcast and inflamed; he refused to stir when called, and when approached, he uttered a growl expressive of anxiety and anger; his nose was dry and warm; paws cold; respiration irregular and quick; pulse 94. He lapped water or milk, but refused solid food. He continued in this state throughout the

day, passing one very offensive, dark, and slimy stool, and voiding, at several efforts, a great quantity of turbid bilious urine.

"On the following morning, the symptoms of the previous day were much aggravated; the dog growled and snapped at everything, living and lifeless, that approached him. My assistant in alarm ran away, and the other attendants being terrified at the dog's madness, deserted me also, and I was consequently left to manage him alone. By unobservedly seizing him at the back of the neck with one hand, and grasping him tightly, I was enabled to raise his lips with the other, when I observed that his mouth was filled with foam, and that his gums and cheeks were much swollen and inflamed; his nose was very dry and hot; paws cold and tender; respiration interrupted, with frequent sighing; pulse 106. So long as I held him in my grasp, he seemed quite docile and contented, but the moment I loosed my hold, he ran furiously at me, and but for a strong chain which secured him to the wall, I have no doubt I should have suffered from his bites. In a few hours, the froth began to distil from his mouth; he was tortured with thirst, and lapped water eagerly and without dread; indeed he plunged his mouth and face into the cold liquid, as if to relieve the heat and inflammation which troubled him; with the same intention he licked the cold wall and floor, but he would not touch any warm body, nor would he lap tepid water. He was remarkably irritable and restless, and when not snapping at objects that approached him, was constantly turning about, or chewing the sand and straw that were near. He was seen in the afternoon of this day by Mr. Bowker, surgeon, and by several other scientific friends, all of whom were decidedly of opinion that he was the subject of madness. In the evening his restlessness somewhat abated, and he lay moaning in a husky voice, occasionally altering the position of his head as if anxious to sleep. Thirst and salivation were diminished; eye dull and glassy, pulse 64, nose dry, extremities cold. He continued in this state, with increasing weakness and somnolency, until about five o'clock on the following morning, when, after a few struggles and signs of suffocation, he died.

" *Sectio cadaveris, six hours after death.*—The limbs were remarkably rigid, but the blood was everywhere uncoagulated, and presented scarcely any distinction between arterial and venous. No ptyalin could be found in it. The right cavities of the heart were gorged with blood, the left auricle was also full, and the left ventricle empty. The lungs were moderately crepitous, and unusually vascular; the air-cells and bronchi contained an abundance of mucus. The lining membrane of the trachea was vascular, and the redness extended to the membrane of the mouth. The gullet was also unnaturally florid, but the stomach and intestines contained nothing unusual. The stomach contained a quantity of straw, sand, and coal. The viscera were natural. The brain exhibited venous congestion upon its surface, and a little bloody serum at its base; but in other respects it was healthy.

The second case is of the same character:

"Six drachms of neutral saliva, sp. gr. 1.008, were introduced, at three separate injections, into the right common carotid of a mongrel dog. Each injection was followed by an extraordinary increase in the heart's action; hurried irregular respiration, and general convulsion. The symptoms closely resembled those detailed in a similar experiment, especially the inability of the animal to walk in a straight direction, and his consequent movement in a circle; the inclination was always towards the vessel which had received the injection. The stage of excitement lasted for five hours, during which time the animal passed an abundance of urine, vomited, and was purged several times. At the end of six hours, slight coma supervened; respiration was deep and stertorous; heart's action slow and laboured; sensibility diminished.

"On the following day there was considerable reaction, and the animal manifested strong signs of irritability and excitement. On the evening of this day I was called from home, and was unavoidably absent for a week. On my return I learnt that, on the second day succeeding the experiment, the dog became calm and docile, ate and drank very well, and appeared not to suffer pain or inconvenience of any kind. In this state he continued until the morning of the eighth day, when, on being visited with his breakfast, he flew at the servant, who narrowly escaped him. The door of the place in which he was kept was divided

horizontally in two, so that by shutting the bottom half, he could be conveniently watched over it. He was described to me as frothing considerably at the mouth, and appearing very fierce in the eyes, which were deeply reddened. He wandered about incessantly, chewing straw or sand, or lapping a little water; but he refused all kinds of solid food. He was shortly left to himself, when he began to gnaw the bottom of the door, which he finally demolished to an extent sufficient for his escape. On my return home in the evening of this day, I discovered him in the middle of a field contiguous to the house, surrounded by half a dozen men, who, with sticks, forks, and spades, were variously endeavouring to get him back into the stable. It was sufficiently ludicrous to see such an amount of human strength and ingenuity successfully combated by a single brute; but the men were in thorough trepidation, from the manifest signs of madness the dog exhibited. He snapped furiously at everything that approached him, and would occasionally pursue one of his opponents, until, tired by this effort, he was compelled to stop for breath. When I saw him he was staring wildly, and a quantity of frothy saliva was distilling from his mouth; the anterior part of his body was covered with this foam. I put a strong glove upon my right hand, and whilst the dog was engaged in snapping at a stick held before him, I caught him by the back of the neck. He struggled violently at first, and seemed to be choking, but finding resistance useless, he became perfectly quiet and composed. From an experience of the treachery of the animal in a previous experiment, I did not venture upon losing my grasp until having examined the state of the eyes and mouth, both of which I found to be unusually vascular, and the pulsations of the heart were 140 per minute, when I had a collar with a strong chain placed round the dog's neck, after which he was reconducted to his stable.

"He was visited again in an hour, but there was no observable decrease of irritability or restlessness; he snapped at everything that came in his way, and was incessantly changing his position. He lapped a little water, but the only solid matter he would chew were fragments of sand and coal. On the following morning he was much in the same state, but less inclined to bite; his mouth was still very frothy, and his eye deeply reddened; respiration rather stertorous; pulse 98. The irritability and restlessness increased towards evening; he would allow nothing to approach him without snapping at it; he was constantly engaged in licking the cold wall, or chewing straw, sand, or coal, or dragging himself upon his belly over the rough ground. On the morning of the tenth day he was somewhat improved; he ate a little meat, and did not snap unless suddenly roused; the salivation was less, and the eye appeared to be brighter; there was no stertor, and the pulse was 84.

"From this time the signs of madness diminished, and the dog seemed to be improving in health until a fortnight had elapsed, when there occurred a most offensive discharge of the nose and ears; it was greenish-yellow in colour, excessively fetid, acrid, and corrosive, for it excoriated the parts over which it trickled, and finally caused the entire of the nose and one ear to slough away. In a few days the dog became quite blind and deaf, though he did not diminish in strength, and he ate very heartily of meat, which was plentifully supplied him. He did not appear to suffer any pain, and was seemingly very quiet and contented. He continued in this state for more than three weeks longer, at the end of which time I was compelled to leave home. I learnt, however, that ulcers subsequently appeared in different parts of his body, and were succeeded by gangrene of the extremities, of which he died. The body was in a state of putrefaction before death. This animal was several times seen by my friends, Drs. Hutchison and Taylor, and Messrs. Massey and Thompson, surgeons, of Nottingham."

To determine whether the mere animal matter of the saliva had any share in producing the above phenomena, Dr. Wright performed the following experiments:

"I injected a drachm of isinglass, dissolved in two ounces of water, into the carotid artery; a little temporary excitement was the consequence, but the animal suffered no further inconvenience.

"I injected a drachm of pure mucus, diffused through an ounce and a half of water, into the jugular vein; the heart was a little quickened, and respiration was correspondently hurried; but the effects completely subsided in twenty minutes.

"I injected the entire white of an egg, diffused through two ounces of water, into the left common carotid of a dog. It produced considerable cerebral excitement, which was succeeded by drowsiness and feebleness of the limbs that continued for several hours; but the symptoms were very mild, and their duration inconsiderable."

The bearing of these experiments on the momentous question of the etiology of hydrophobia will occur to every reader, and we think the author uses a due discretion in speaking doubtfully on the subject.

"Concerning the production of canine madness by the injection of saliva into the blood, it is not now my intention to speak. It will, however, be sufficiently evident from the experiments already cited, that saliva is capable of exerting a very marked influence upon the brain and nervous system. The spasm, convulsion, and coma which were consequent upon the introduction of saliva into the arteries and veins, are conclusive proofs of its activity; whilst the absence of all such symptoms on the injection of the other animal fluids into the circulatory system demonstrates that, not to any physical or mechanical influence, but to a peculiar property inherent in itself, is saliva indebted for the manifestation of its physiological action."

"A late number of the 'Veterinary Record' contains the translation of a paper on rabies by Dr. Eckel, an abstract of which appears in the 'Lancet' (Oct. 10, 1847). It appears from these researches that, contrary to the usual opinion, which attributes the disease in the dog to the influence of heat and thirst, that the greater number of cases occurred in February and May. The disease was also observed to affect chiefly animals in easy circumstances, and more commonly in mongrel than in well-bred dogs. The large proportion were dogs; of 141 cases there were only 15 bitches; no instance was known among castrated dogs. The disease seldom attacked watch-dogs, or those employed in labour."

The malady can only be well defined during the period of its development, and that by three characteristic phenomena:

"1st. The accession of fury, with inclination to bite.

"2d. The change in the voice, and the bark.

"3d. Paralysis of the inferior maxilla.

"These three symptoms are constant and pathognomonic. The invasion can only be perceived by the master of the dog, or one who is intimately acquainted with the natural disposition and habits of the animal, and who submits him to a careful examination. In the room the disease shows itself by the animal exhibiting a great deal of anxiety; he gets up and lies down again—seems uneasy—forsakes his accustomed place—his habits are perverted—one moment he will obey the voice of his master with astonishing punctuality, the next moment he pays not the slightest attention to him, or if he does, it is with repugnance—he keeps constantly near the door—he tries to get out, without having any occasion to satisfy his natural wants. The urinary and fecal evacuations are scanty; to which may be added, the loathing of food, in particular, animal food, and a desire to drink cold water, or cold milk, without, however, partaking of much at a time.

"Out of doors he follows his master with reluctance, and without the least sign of satisfaction or pleasure. Contrary to his usual custom, he walks behind him, and his attention is only excited when he meets with other dogs, cats, or birds, which he tries to reach, and even to bite. He picks up and swallows all sorts of filth and rubbish, such as the excrements of other animals, dirt, old leather, bits of cloth, &c.

"These symptoms are aggravated on the second, or, at the latest, on the third day, when the appetite becomes entirely lost—the animal, when at liberty, furtively forsakes his home, bites all animals it meets with, and even man, if obstructed or tormented by him. After several hours' running he returns to his home exhausted, throws himself in some obscure corner, and allows himself with difficulty to be approached even by his master. It becomes, then, most dangerous to use constraint, but with kind usage he may be made to obey. If in this state he is not watched, he again runs away, and never returns; if, on the contrary, he is carefully watched, he may yet continue to follow his master, but bites all dogs, cats, or other animals in his way, without allowing himself to be intimidated by the voice of his master, after which he will again return to

him, and allow himself patiently to be muzzled by him, and will even follow him, if kindly treated. In this manner, observes Dr. Eckel, many dogs attacked with the acute form of rabies have been brought to the Imperial Veterinary Institute of Vienna by their masters, even without muzzle or chain. These dogs are very quiet if treated with kindness; but as soon as they are shut up in their cages, and see other dogs, or even hear them, the accession of rage takes place, and they furiously gnaw their litter, the sides, floor, iron bars, &c., of the cage; and when living animals, such as small dogs, pigs, or sheep, are brought near them, their fury for biting redoubles; their carnivorous instinct then reaches its acme—they put themselves in the position of the tiger ready to spring on its victim. These paroxysms occur several times in the day, even without any apparent existing causes. After each paroxysm, dogs will generally gladly lap some clean water, but deglutition is difficult; they either lie down or sit on their haunches, and make themselves heard by a frequent bark, the muzzle being turned upwards. This bark is peculiar and characteristic—*sui generis*. It is something between the ordinary bark of the dog and the howl. In the beginning the voice is sonorous and metallic, afterwards it becomes hoarse. In some cases a slight trembling is perceived, which, according to M. Eckel, never terminates in convulsions, but in a sort of apparent sleep, during which the dogs never cease biting any object presented to them. The desire to bite subsists after the access of furor has subsided.

“On the second day the paroxysms are at greater intervals, less frequent, and of shorter duration. During the intervals, the dog remains in a recumbent posture: if he attempts to get up, the posterior extremities seem weak and vacillating—the inferior maxilla drops, and his mouth is half open—drowsiness predominates—the animal expresses no longer a desire for water—he lies quietly with his head on his belly—the sonorous metallic bark is no longer heard, but instead of it a short, hoarse howl is from time to time audible—the external objects which excited him before lose their effect; and it is with difficulty that the animal is made to rise. In ordinary cases this general debility passes, at the third, or, at the latest, the fourth day, into a complete state of paralysis. Then the animal is constantly lying on one side—the head and legs are extended—the mouth and eyes half open, the latter are fixed, the pupil immobile and dilated, the cornea dusky and shrunk. Sometimes a fetid diarrhoea exits, the alvine excretion being of a grayish or blackish colour, and voided involuntarily. The respiration now becomes imperceptible, and in general the animal dies quietly, and without a struggle.”

On the pathology of the disease it cannot be said that much light has been thrown by M. Eckel's researches; but it is evident, from the following remarks, that he entertains the opinion of its intimate connexion with the venereal manifestation. Speaking of the peculiarities of the canine species, he observes:

“The physiological characters of the dog, which influence more particularly the generation of rabies, and which are to be sought for in the vegetative, sensitive, and irritable phases of his nature—the fact of his immoderate venereal desires, and his extraordinary fecundity—his quick growth, and the speedy development of his faculties—his appetite, and necessity for animal food, putrefied in most instances—his rapid digestion, and continual voracity—his excretions, so repulsive in their odour—the faculty of bolting his food, with an equal facility of vomiting it up again—the rapid renewal of the blood—the acceleration of the respiration and circulation—the development of the brain—the large amount of instinct—the activity of the intellectual faculties—the facility of impression—its natural pugnacity and passion; on the one side, an unlimited attachment; on the other, an implacable hatred, of which no other animal seems to be capable—his temperament; in youth sanguineous, in old age melancholic; all this indicates a peculiar predisposition to the diseases of which rabies seems to be the type, *par excellence*. Add to this, the many changes to which domestication subjects the dog. If one considers the ill-treatment he often receives, being sometimes nearly starved to death, at others fed to excess; often exposed to the intensity of heat and of cold; sometimes allowed an immoderate indulgence of the venereal desires, at others prevented at the very moment of satisfying the same; and if we reflect for a moment on the effects produced on the morals of

some degraded beings of the human species by venereal desires, we may easily understand the results that follow their restraint, and also the entire prevention of satisfying them. In the dog, where the ejaculation of the semen is to follow so closely upon its secretion, he not being, like man and other animals, provided with a vesiculæ seminales, it will not be difficult to comprehend how a nervous irritation, with a sanguineous decomposition, and finally rabies and death, should become developed in him.

"So long as the specific cause of the pathological nature of rabies remains undetermined, it would be impossible, *a priori*, to decide on any curative method so as with certainty to combat the disease. Much here must be left to chance. Confining ourselves to the careful observation of the malady, allowing every liberty and every latitude to animals in order to admit of a full manifestation of their instinct, is the only way by which we may one day hope to arrive at an efficacious therapeutic treatment of rabies."

11. *Treatment of Hydrophobia by Chloroform.*—Two cases are recorded in which the inhalation of chloroform has been employed in the treatment of hydrophobia. The first case is reported by Dr. Smiley,* and was that of a boy, æt. 14, who was bitten by a dog known to be rabid, nine weeks previously. The symptoms were greatly relieved, but the child died unexpectedly. The second case, narrated by Mr. Ackerby, had a fortunate termination. The patient had been bitten eleven years previously by a rabid cat. The symptoms were irritability of temper, spasm about the throat, dribbling of viscid saliva, delirium, &c.†—[The length of time which had elapsed since the alleged inoculation, renders the hydrophobic characters of the case somewhat doubtful.]

PART II.—SPECIAL PATHOLOGY.

§ I.—Diseases of the Nervous System.

12. *The relation of Cerebral Congestion to Apoplexy and Ramollissement.*—In a memoir presented to the Académie de Médecine, M. Durand Far del urges the important part which congestion assumes in the pathology of apoplexy and cerebral softening. Contrary to the opinion of Rostan, he regards the latter as invariably induced by congestion, and never by a degeneration analogous to senile gangrene. The same importance is attached to congestion, as a condition premonitory of apoplectic effusion. In the ensuing discussion, M. Rochoux repeated a previously expressed opinion, that in the majority of cases of apoplexy there are no premonitory symptoms indicating vascular fullness, but that a certain particular change takes place independent of congestion; the consequence of which is disruption of the capillary vessels. (See 'Abstract,' Vol. I, p. 203.‡)

13. *Delirium of Fever, Tartar Emetic and Opium in.*—The practice recommended by Dr. Graves, of treating the cerebral excitement of fever by tartar emetic and opium, is highly approved of by Mr. Todd, in an interesting communication on the state of the brain in fever.§

14. *Tubercular Disease of the Brain.*—A very instructive case of this disease, exhibiting the insidiousness with which its approaches are marked, is published by Mr. Salter, of Poole.|| The subject was a young lady, æt. 12, who, for two months previously, had been complaining of loss of appetite, and headache, with other symptoms which might fairly have been attributed to simply deranged primæ viæ. She had at the same time severe lameness, with tenderness of one foot. Attention was paid to the regulation of the secretions without much benefit, when, March 26, vomiting was noticed for the first time. The headache became more severe, and the head hot. Leeches were applied, which, for the time, removed the headache. After about six weeks' change of air, she was found in some respects im-

* Philadelphia Med. Exam. April, 1848.

† Lancet, July 29, 1848.

‡ Bulletin de l'Académie, and Brit. and For. Med. Chir. Rev. Oct. p. 541.

§ Lancet, June 10.

|| Guy's Hospital Reports, Oct. 1848.

proved, but the vomiting still continued, accompanied by "whizzing" in the head. The vomiting occurred generally on first rising to dress, but occasionally also during the day. The matter brought up resembled bile. At this time her appetite was good, bowels regular, pulse 80, pupils and sight natural, but emaciation continued.

July 1. The following report was made: The patient free from pain, expression languid, eyes clear, pupil large, but amenable to light. No local or general signs of pectoral disease; not any functional derangement beside *vomiting*, which occurs about twice in the twenty-four hours. The time at which it occurs is most uniformly on changing her position in bed.

August 12. The obscurity hitherto surrounding the case at this time was removed. The occurrence of blindness, with complete amaurosis, clearly indicated organic lesion of the brain. It is curious that the vomiting now subsided, but her debility increased.

This case need not be minutely followed further; suffice to say, that the sickness returned, and the general debility increased to an alarming extent. The power of deglutition also became gradually impaired; and, toward the close, asthenic bronchitis declared itself.

After death, the lesions discovered in the thoracic and abdominal organs were not prominent, consisting of traces of pleuritis, with tubercles in the liver and lungs. The chief morbid appearances were confined to the brain, in which a large tubercular mass was found to occupy the posterior lobe of the right hemisphere, dipping deeply into its substance. The medullary portion of the brain was soft and pulpy, the posterior cornua were enlarged to the size of a pullet's egg. The corpora striata were lighter in colour than usual; and from the anterior part of the left a fleshy-looking substance, like that of the carnea columnæ of the heart, stretched across to become attached to the septum lucidum. The optic thalami were mottled with red and gray. The left lobe of the cerebellum was also disorganized by tubercular matter; and in the situation of the corpus dentatum was a cavity the size of a walnut, and containing a mixture of pus and broken-down cerebral matter. The surface of this cavity was lined with a smooth vascular membrane, having projecting from it numerous hard tubercular masses of various sizes.

In remarking upon the circumstances attending this case, the author acknowledges the difficulty of determining the priority of morbid actions, but seems to consider the cerebral affection and disease of the foot to have been coeval; the disturbance of the chylipoietic organs may have been antecedent, or merely sympathetic. [We should be disposed, with him, to adopt the latter view; for as this disturbance only commenced a few months prior to death, it will be difficult to imagine that the disease found in the brain could have originated subsequently, and yet have attained so extensive a development in so short a time. It is unquestionable in our minds that the tubercular disease in the brain had long existed, and that the occurrence of functional disturbance of the digestive apparatus marked the period at which the inflammatory action and softening of the brain commenced; the results of which were the immediate cause of death.]

15. *Fungus Hematodes of the Brain*.—Mr. Prankerd narrates a case in which one hemisphere of the brain was almost entirely destroyed by a malignant growth, and yet the patient lived for many years with the intellectual faculties unimpaired. The case, he remarks, offers some points of interest in connexion with the theory of the duality of the mind advanced by the late Dr. Wigan.

The patient, a female æt. 44, for the last ten years of her life had suffered from intense pain in the head occurring at intervals, and was for nearly the whole period completely blind. The treatment adopted afforded only temporary relief, and she sunk from exhaustion. Throughout the whole period her mental powers were unimpaired.

On examination, the right hemisphere was found to be healthy, the left softened, and the anterior and inferior portion was occupied by a firm tumour, weighing upwards of eight ounces, and having the structure and appearance of fungus hematodes.*

* Prov. Med. and Surg. Journal, Sept. 20, 1848.

16. *Hydatids of the Brain*.—In communicating to the Royal Medico-Chirurgical Society the details of a case reported by Dr. Stewart, Dr. Gregory remarked on the greater rarity of acephalocysts, or hydatids, in the intra-cranial structures, than in the thoracic or abdominal tissues, and referred to Dr. Craigie's observation that in the greater number of reported cases only solitary serous cysts existed, not clustered hydatids. After noticing briefly three cases, one described by Rendtorff, a second related by Mr. Mowatt, of Worthing, in the second volume of the 'Medico-Chirurgical Transactions,' and the third communicated by Mr. Burnell to the late Dr. Baillie, who remarked that none such had ever fallen under his own observation, Dr. Gregory states, as the result of his own reading, that the normal series of symptoms flowing from the development of intra-cranial hydatids seem to be the following:—Pain in the head, succeeded, after a considerable time, by epileptic fits, and terminating in apoplexy. The Pathological Museum of the Army Medical Department at Fort Pitt, Chatham, contains two specimens of hydatids of the brain. An account of all that is known relative to these cases has been furnished to Dr. Gregory by Dr. French. In the first case, no cerebral symptoms were noticed during life. After death, cysts, described as hydatids, were found beneath the pia mater, covering the hemispheres, in the right corpus striatum, and in the substance of the cerebrum in its immediate vicinity. In the second case, epileptic fits were present for three years and five months before death. Here were found small round bodies, like hydatids, some hard and almost cartilaginous, not only beneath the pia mater, but also generally throughout the substance of both the cerebrum and cerebellum. They were collected to the amount of an ounce or more. Each consisted of a distinct membranous sac, which sometimes appeared double, and in layers like an onion. All the cysts contained a clear fluid, with more or less cheesy-looking matter. Dr. Gregory then communicated the following case, which, at his request, had been transmitted to him by Dr. Stewart. The patient, a gunner of the Royal Artillery, æt. 24 years and 9 months, was admitted into the Artillery Hospital, Woolwich, on the 29th April, 1848, immediately on his arrival from Malta, with the following history:—He had arrived in Malta with his company in February, 1847, and from that time suffered with constant headache. In November, 1847, he had a severe epileptic fit, followed by coma. Subsequently imbecility showed itself, and vision became impaired, the pupils sluggish, and the left eyelid became affected with slight ptosis. His memory became defective, and he became subject to fits of uncontrollable laughter. His hearing was but little affected, but both eyes were amaurotic. He died after a succession of epileptic fits, ending in coma. After death there was found on the middle fossa of the base of the cranium, between the dura mater and the cranial bones, a mass the size of the closed fist, which proved to be a collection of hydatids. They were numerous, and varied in size from a pea to an orange. The substance of the brain was compressed, but otherwise normal.*

17. *Tetanus*.—Dr. Wilmot, who has recently published on this disease, states his belief that its division into acute and chronic is perfectly justified by the results of observation, and that such a division is necessary, in reference both to prognosis and treatment. Idiopathic tetanus, he observes, has generally a favorable issue, while the reverse is generally the case in the traumatic form. He regards a peculiar expression of countenance as a very characteristic sign of the impending malady, and more to be trusted to than difficulty of swallowing.

In reference to the pathology of the disease, the author thinks that it is proved not to be dependent upon hyperæmia, or effusion on the cord, by the fact that in post-mortem examinations such appearances are as often absent as present; and, on the other hand, that in cases of ascertained spinal meningitis, as in those described by Dr. Mayne and others, the peculiar symptoms of tetanus are not present.

[In this our author is mistaken. Dr. Darby, in describing an epidemic of spinal meningitis (Abstract, Vol. III, p. 151), as also Dr. Hicks (Abstract, Vol. VI, p. 184), distinctly refer to tetanic symptoms as prominent phenomena.]

Dr. Wilson is on these grounds inclined to refer the disease to augmented ex-

* Reported in various journals.

citability of the true spinal system, of a purely functional character, and makes known in the following propositions, with which the memoir concludes.

1st. That tetanus depends on irritation, direct or indirect, of the excito-motory system, by which it becomes surcharged with motor influence, and that inflammation in or about the cord, or any appreciable lesion, is not an essential condition of the development of the disease.

2d. That while we have ample evidence, physiological and practical, that opium is ill calculated to fulfil the indication in tetanus, namely, to diminish the excitability of the true spinal cord, until our views become improved, and the knowledge of our anti-tetanic agent ceases to be a desideratum, we are not justified in altogether discarding the use of the drug.

3d. That our grand object in the treatment of tetanus should be to support the patient's strength, with a view to compensate the vital powers for their great exhaustion, consequent upon the expenditure of force in the violent muscular contractions.

4th. That as the removal of the exciting cause, once that the first evidence of irritation propagated to the spinal cord becomes manifest, does not, in the least degree, check the progress of tetanus, or abate the violence of its symptoms, all operations in traumatic cases are not only unnecessary but injurious.*

18. *Trismus nascentium*.—It will be recollected that Dr. Sims published a paper on *trismus nascentium* (see Half-Yearly Abstract, Vol. IV, p. 282), in which he maintained that the disease was caused by displacement of the *os occipitis*, whereby compression was made upon the cerebellum, medulla oblongata, and the important nerves originating from it. This displacement, he believed, proceeded from the careless habit of suffering young infants to lie too much upon their backs, and he suggested the simple remedy of placing them on their sides, and letting them rest upon soft leather pillows. Since that time, Dr. Sims has closely studied the subject, and although he has discovered the fallacy of some of the views he then entertained, still he is satisfied that the *leading idea* is correct, and the object of this paper is to substantiate it, which he does by numerous carefully observed facts, and most plausible deductions. One of the errors which Dr. Sims says he once entertained was, that the displacement was attributable to *imperfect* ossification of the occipital bone; whereas he is now convinced that it is more likely to occur where ossification is *unusually advanced*. He says that, in intra-uterine life, or before parturition, the *os occipitis* lies *beneath* the parietal bones, but immediately after birth the occiput should bulge out, and its superior edge rest *upon* the border of the parietal bones. Unless this takes place, a more or less dangerous compression upon the soft parts mentioned will soon be produced. In most cases, if the proper position of the infant be attended to, nature will correct the evil; but it occasionally happens that surgical aid will be required to liberate the confined and misplaced bone. Dr. Sims has elevated the depressed occiput with an instrument something like an awl, upon one or two occasions, with success. He gave the details of some exceedingly interesting cases which he had saved by his method of treatment, and which strongly corroborate the views he entertains. Cases of *trismus* present different degrees of severity, some terminating fatally in a few hours, and others continuing for several weeks; but under all its varied forms, Dr. Sims thinks he has discovered one invariable diagnostic symptom, viz.: *the inability to suck the breast*. This symptom he has *never seen wanting in a single case*, and it has often served to determine the existence of the disease, where the other symptoms left room for much doubt as to the true nature of the case.

A more extended experience has convinced Dr. Sims that the disease does not arise exclusively from a depression of the occiput; he has seen cases where it arose from a depression of the *parietal bones*. The position of the child in this case should be different from the preceding. It is astonishing how promptly, according to Dr. Sims, relief is afforded in many cases, simply by placing the child in the proper position. He has seen evident improvement in half an hour or less, and complete relief afforded in the course of a few hours. He says that nothing is necessary in cases of occipital depression, but to place the child upon

* Dublin Quarterly Journal of Medical Science, Aug., 1848.

its side, so that the head may rest fairly on the temporal bone. Not *partially inclined*, so that the weight of the head will rest on the parietal protuberance, as is too often done by mothers and others, who will assert that the child has been *constantly laid upon its side, but flat upon the side of the head*, when there will naturally be a slight inclination downwards and forwards. The pillow should be of soft feathers, and beaten up so as to be thickest in the middle. In cases of parietal depression, the child should be kept almost erect on the back, or held over on the forehead. Dr. Sims recommends no medicine in the treatment of the complaint. All the distressing symptoms, such as insomnia, borborygmi, griping diarrhoea, tonic spasms, &c., disappear as the brain is relieved. He thinks that all the recoveries from this usually fatal disease have been entirely *accidental*—in the management of them the child *happened* to be placed in the right position, to allow nature to rectify the evil. He is convinced of this in regard to the recommendation of Dr. Eberle, to apply a *blister to the nucha*, for then the child must necessarily be placed on the side. And as to a successful case mentioned by Dr. Stone, in his lecture to the medical class, which followed the application of sweet oil all over the body, at the request of an old woman, he is equally convinced that the good effect is more fairly attributable to the change of position accidentally made, than to any virtue of the oil. Dr. Sims spoke of certain infantile affections, which he calls *trismoid*, because they resemble true *trismus nascentium* in many particulars, but lack the grand diagnostic symptom, the total inability to suck the breast.

As to the reputed frequency of the disease in southern countries, Dr. Sims contends that we are in want of further and more careful observations, as well to settle the *existence of the fact*, as the *malign influence of the climate*. He thinks it will be found, on careful investigation, that its frequency depends more on the improper management of children, than on the climate or anything else. By reference to Curling on Tetanus, the best work extant on the subject, it will be seen that the disease has prevailed to a great extent among children in a *northern latitude*. As to the frequent occurrence of the disease in certain localities, on particular plantations in the South, for instance, Dr. Sims thinks that more careful observation is demanded. He knows of two large plantations in the same neighbourhood, on one of which the disease is very common, inasmuch that, within the last ten years, *fifty* negro children have been lost from it; whilst on the other it is *equally rare*. He is satisfied that, in these instances, the different results depend on the different degree of care and attention paid by the owners to their negro children. He is inclined to think, however, that it is far more common at the North than is generally admitted. He believes that many of the deaths in early infancy, attributed so vaguely in their bills of mortality to *convulsions, spasms, infantile complaint, &c.*, are really caused by the disease under consideration. This paper, which is published in the 'American Journal of Medical Sciences,' is deserving of the special attention of the profession.

19. *Paralysis from Arsenic*.—Two cases have been lately recorded, in which the medicinal use of arsenic was followed by paralysis. In Dr. Hasting's case, the patient had taken Fowler's solution in only three-minim doses for seven weeks.*

20. *Paralysis, with Atrophy of Muscles*.—It is a fact well established, that the nutrition of muscle is steadily proportionate to the energy and regularity of its action, and that as, on the one hand, a continued action may lead to exaggerated muscular development, so, on the other hand, disease leads to wasting of the muscular fibre. Atrophy of muscle is, therefore, seen to be a general concomitant of paralysis, and may in itself, in certain cases, materially interfere with the restoration of power, even although the abstracted or diminished nervous influence be regained. Mr. Barlow, in a recent paper published in the 'Medical Gazette,' has taken advantage of the effect of action upon muscle, to propose that, where voluntary power is lost, involuntary or excited motion should, where it is possible, be encouraged and maintained, for the purpose of preventing the wasting of the limb, believing that action of a muscle, of whatever kind, as is shown by Mr. Paget, is, in a degree, conducive to its nutrition. With these views he proposes that galvanism should be systematically employed, as well as other means of producing

* Prov. Med. and Surg. Journal, Aug. 23, 1848.

excito-motory movements. He very properly remarks, that as, for instance, in the paralysis of dentition, a certain amount of voluntary power is often recovered, but it is often too late to be of material service to the patient, as in the meantime, from the want of action of the muscles, nutrition has remained in abeyance, and the whole limb has become atrophied and shortened. In such cases, if it were possible to prevent the atrophy by the induction of excited muscular action, he considers that this wasting might be prevented, and the restoration of voluntary power, when so fortunate a result occurred, would find the limb in a condition, as to length and symmetry, such as to be rendered serviceable.*

21. *Neuralgia*.—Dr. Ruhbaum, of Potsdam, bears testimony to the occasional benefit to be derived from the use of Indian hemp in facial neuralgia. The dose was equivalent to a grain of the resinous extract.†

22. *Peculiar Affection of the Portio Dura*.—Dr. Graves describes a remarkable affection, previously unnoticed, of the portio dura, which exhibited itself in the production of spasmodic twitchings of all the muscles supplied by that nerve. The case is that of a female, æt. 40. The complaint commenced by spasms of the lower eyelid of the right side, producing a kind of winking, and the other muscles gradually took on the same action. The disease was unprecedented by pain in the head or ear. General health good. On admission, all the muscles of the face supplied by the seventh nerve were affected with spasmodic contractions, occurring many times in a minute. The angle of the mouth and ala nasi of the right side were pulled towards the ear. The platysma participated in the spasms, which, moreover, continued during sleep. There was constant noise in the right ear, but there was no pain, or loss of hearing.‡

[We have recently met with a precisely similar case, also in a female, æt. 60. In her the spasm returned at intervals of half a minute or minute, for several minutes together, and were accompanied by lachrymation, but without pain. The movements were so great that she was obliged to steady the cheek with her hands.]

§ II.—Diseases of the Respiratory System.

23. *Movements of Respiration in Health and Disease*.—The elaborate essays by Mr. Sibson on the position of the internal organs, to which we alluded in our last Report, have been followed by an equally talented exposition of the movements of respiration in health and disease; for the measurement of which he has, moreover, devised a very ingenious instrument. In the healthy state, during tranquil inspiration, he states that the costal advance is from 0·2 to 0·7 of an inch, and the abdominal 0·30; and during a deep inspiration the costal advance is from three-quarters to two inches, and the abdominal from three-quarters to one inch and a half. The increased motion of deep abdominal inspiration may be well observed in the recumbent posture.

In studying the modifications of the respiratory movements, Mr. Sibson first speaks of those which take place during a healthy state of the internal organs. The causes of the disturbance in such conditions comprise spinal distortion, injury or disease of the ribs, intercostal muscles, and contiguous parts which restrain the costal motion, peritonitis, and abdominal distension, which may interfere with the descent of the diaphragm. In a subsequent part of his paper, the author considers the effects of disease on the respiratory organs themselves as follows:

"If there be extreme obstruction to inspiration in the larynx, the diaphragm descends with energy, lengthening the lungs, and as air cannot enter these organs readily, they collapse, and the costal walls fall back during inspiration, owing to atmospheric pressure. In emphysema and bronchitis, there is obstruction to respiration in the smaller bronchi; hence, in inspiration, while the diaphragm, descending, draws down and elongates the lungs, and the upper part of the chest draws them upwards, air not being able to enter freely, the lower part of the chest collapses. In pleuritic effusion, pleuritis, condensation of the lung, phthisis and pneumonia in certain stages—diseases which prevent the expansion of the whole or part of one

* Medical Gazette, Sept. 29, 1848.

† Medicinische Zeitung, in Lancet.

‡ Op. cit. 571.

lung, the movements of respiration are lessened, annihilated, or reversed over the affected part, and exaggerated everywhere else. If the upper lobe be affected, the five superior ribs—the thoracic set, are restrained; if the lower lobe, the sixth, seventh, and eighth ribs—the intermediate set, and sometimes the four lower ribs—the diaphragmatic, also are restrained. This division of the ribs, proposed by the author, on physiological grounds, in a paper on the Mechanism of Respiration, in the 'Philosophical Transactions,' he retains throughout the present paper on pathological grounds. The last section relates to the influence of affections of the head on the respiratory movements. The rhythm of respiration is an important diagnostic sign. Inspiration and expiration are equal in health, though expiration is often prolonged. In laryngitis, emphysema, and sometimes in phthisis, the expiration is prolonged, owing to obstruction. In laryngitis, the expiration is equally slow throughout; in emphysema, it is quick at first, when the bronchi are largest; then slow, and gradually slower towards the end, where the tubes are smallest and the obstruction greatest. The expiration is lengthened in proportion to the obstruction in the bronchi. The author concludes by referring to the diagnostic value of the signs in question, endeavouring neither to over- or under-estimate them.

"Mr. Sibson showed the application of the chest-measurer—an instrument which measures the diameter and the respiratory movements of any part of the body. In carrying out the inquiry into the morbid respiratory movements, Mr. Sibson retained the division of the ribs into three sets—the thoracic, diaphragmatic, and intermediate, proposed by him in a previous paper on the Mechanism of Respiration, on physiological, and confirmed on pathological grounds. The five superior ribs—the thoracic set—embrace and expand the upper lobes; if the expansion of either upper lobe be imperfect or impossible, owing to disease, as phthisical cavities or consolidation, the motion of the thoracic ribs over the seat of disease is restrained, annihilated, or reversed. But it is not only in disease of the lung that they are restrained in motion—lateral curvature, injuries to the ribs, local pleurodynia, disease in the axilla, shoulder, or surrounding tissues, anything that induces the movements of the ribs to cause pain or mischief, may diminish or arrest their motion. As the right middle lobe is behind the third, fourth, and fifth costal cartilages on the right side, and the heart behind those on the left, affections of the middle lobe will restrain the motion of the right cartilages and ribs—pericarditis. Pericardial adhesions and heart disease will restrain the left. The ninth, tenth, eleventh, and twelfth ribs form the diaphragmatic set, which protect the liver, spleen, and stomach, and which expand when the diaphragm descends, then dilating and embracing the inferior part of the lower lobes. In health, the motion of these ribs, during tranquil, involuntary inspiration, is greater than that of the thoracic ribs. This is owing to the great descent of the diaphragm. The abdomen, in man, moves forward during a tranquil inspiration nearly the third of an inch. The diaphragmatic ribs move outwards the tenth of an inch, while the thoracic ribs advance only from two to seven hundredths of an inch. This might be expected, from their action being supplementary to that of the diaphragm. The motion of these ribs is arrested as in peritonitis, when that of the diaphragm is so also; it is proportionally restrained when that of the diaphragm is so, in abdominal distension, and other such cases, at the same time that the motion of the thoracic ribs is proportionally exaggerated. The diaphragmatic ribs and diaphragm, on the affected side, may be likewise restrained by pleuritis or pneumonia of the inferior part of the lower lobe. The sixth, seventh, and eighth ribs, which have a conjoint cartilage from the intermediate set, partially diaphragmatic, protecting the liver and stomach, and partially thoracic, embracing and expanding the lower lobes. Their inspiratory movement may be restrained by pneumonia, pleuritis, and condensation of the lower lobe, and by pleuritic effusion; that of the sixth rib, by disease either of the lower portion of the upper lobe, or the upper portion of the lower lobe. The different sets of ribs are each restrained by the affection of a different part of the chest or abdomen: the thoracic set, by affections of the upper lobe; the intermediate set, by those of the lower lobe; and the diaphragmatic set, and the diaphragm, by those of the lower part of the lower lobe and the abdomen. In condensation of the whole of one lung, or extensive effusion into either pleura, the expansion of the whole of the ribs, and the descent of the

diaphragm on the affected side, are restrained, while on the opposite side they are exaggerated. This division of the ribs into sets is practical, and based upon their respective functions, and does not differ materially from the anatomical divisions in use.

When inspiration is obstructed, either in the outer passages or smaller bronchi, the respiratory movements present an important and readily recognised class of signs. If the larynx be almost closed, the lungs can scarcely expand during inspiration; the diaphragm, descending with power, draws down and elongates the lung; as the air cannot rush in sufficiently, the lung collapses, and the walls of the chest are flattened and narrowed during inspiration, being forced inwards by the pressure of the atmosphere. This is well illustrated by an observation made by Professor Sharpey, which any one may repeat. Pass a tape round the chest, close the glottis, and make the diaphragm descend as in inspiration. The abdomen will protrude considerably, and the chest be narrowed from half an inch to an inch. I have observed the same thing in hiccough. Whenever there is great obstruction in the outer passages, the chest, especially at the lower end of the sternum, collapses during inspiration. When there is obstruction to inspiration in the smaller bronchi, either from narrowing of them, as in emphysema, or from their being plugged with fluid, as in bronchitis, the superior thoracic ribs expand with force, and the diaphragm descends rapidly, and as sufficient air cannot enter, the lower end of the sternum and the adjoining cartilages recede during inspiration. But it is not only in such cases that the lower end of the sternum falls back during inspiration. When much fluid is effused into either pleura, if the diaphragm descend during inspiration, the sac containing the fluid is elongated, and the lower end of the sternum and the adjoining cartilages over the affected side may fall in. The sternum may also fall in when there is extensive pericardial effusion, if the diaphragm descends, elongating the sac. If the heart be large and universally adherent, the descent of the diaphragm draws down the heart; and as the expanding lung cannot pass between the heart and the ribs, the sternum often recedes during inspiration. If the heart be simply enlarged, the lungs intervene between the heart and the ribs, and though the movement of the lower end of the sternum and the adjoining left cartilages are restrained, yet they seldom recede. We are thus sometimes furnished with a sign to distinguish enlargement of the heart, when with or without adhesions. It is well to remember that the normal movements of the left ribs, all but the superior thoracic and the diaphragm, are somewhat less than those of the right side. He then remarked on the recognised value of the altered rhythm of respiration as a sign of chest disease. In laryngitis, bronchitis, and emphysema, the expiration is longer than the inspiration, in proportion to the obstruction to respiration. In laryngitis, the expiration is prolonged, owing to their being then in contact; while in inspiration they are drawn asunder, and it is equally slow throughout, owing to the obstruction being equally great throughout. In emphysema and bronchitis, the obstruction being in the smaller bronchi is greatest at the beginning of inspiration and the end of expiration. When the chest expands, the bronchi, as well as the air-cells, necessarily dilate; the tubes are therefore larger at the end of inspiration and beginning of expiration. If the obstruction be from fluid, the fluid fills up the tubes most completely towards the end of expiration; it is then that the rhonchi are most frequently present, and most sharp, that expiration is most difficult. In inspiration the obstruction diminishes, in expiration it increases during the acts. In emphysema and bronchitis the expiration is quick at first, then slow, and becomes gradually slower towards the end. In phthisis the expiration is prolonged in like manner, when there is similar obstruction in the air-tubes or cavities. Only in peritonitis had he observed the expiration to be shorter than the inspiration, owing, he conceives, to the resistance offered to inspiration by the constant rigidity of the abdominal muscles. The existence of the signs indicated in this sketch cannot, of course, be conclusive as to the diagnosis of any disease; but their observation draws one's attention to the seat, and often informs one as to the nature of the disease. The disturbed rhythm and the reversed respiratory movements are particularly of value as indications of the presence of chest disease.*

* Reported in *Lancet*, June 3.

24. *Opening of the Ravine Veins in Angina.*—M. Ceglie has derived much advantage from this mode of bleeding in diseases of the throat. He explains the success by reference to the anatomical distribution of the blood-vessels. He has seen it afford great relief in the acute stages of inflammatory croup, the symptoms of oppression, the agitation, suffocative cough, &c., ceasing almost instantaneously.

To perform the operation, the tongue is drawn forward, and after puncturing the veins, the mouth is frequently gargled with warm water. The bleeding may be repeated three or four times in twenty-four hours.*

25. *Spasm of the Glottis in the Adult.*—Dr. Walker, of Teignmouth, adduces a case in support of Dr. Wardell, in the controversy respecting the occurrence of spasm of the glottis in the adult. (Abstract, Vol. VII, p. 44.) The patient was, as is generally the case, a female, and when seen was labouring for breath, which she drew at long intervals, with a loud crowing inspiration, livid countenance, cold extremities, &c. The spasmodic condition varied in intensity, and was quickly relieved by antispasmodic remedies.†

26. *Pneumonia.*—Dr. Hughes has published the results of fifty-four cadaveric inspections of cases of pneumonia, the analysis of which gives some results worthy of notice. He finds that the age most prone to the disease is between 20 and 30, which he thinks probably arises from the fact of a larger proportion of adults being alive between those years than any other decennial period. Of the sexes, the male afforded the most, but not so much as to render it improbable that the female would not be equally liable to the disease, if exposed to its causes in the same degree.

Respecting the lung most frequently affected, Dr. Hughes finds that the preponderance is considerably on the side of the right lung, but it is strange that, in the fatal cases, the two lungs were equally affected. As might be expected, both lungs were found to be simultaneously affected, oftener than one separately. As to the part of the lung most commonly affected, Dr. Hughes's observations confirm the general opinion that the base is the part most frequently diseased, especially in the primary form. Among his cases are found a large proportion of instances of gangrene.‡

—A case of pneumonia has recently occurred in our practice, and elsewhere reported, which is worthy of notice, from the fact that perfect resolution took place without the reappearance of "crepitus." The occasional occurrence of such instances is noticed by Graves, Stokes, &c., but that they are rare may be surmised from the fact that few of the systematic writers on medicine, even of recent date, have alluded to it.§

27. *Phthisis, Edema in.*—Towards the close of this, as well as other exhausting diseases, it is not unusual to find one of the limbs, and sometimes both, infiltrated with fluid. This is generally attributed to debility; but in some instances in which the cause has been specially sought for, it has been shown by Piedagnel and Dr. Lewis to depend upon partial obliteration of the iliac vein, usually the left. The former explains the occurrence of the coagulation of the blood, upon the supposition that the wasting of phthisis causes the vein to be brought into more direct contact with the vertebral column, against which it is compressed by the corresponding artery. In connexion with the subject, we would call the reader's attention to an essay by M. Bouchat on the spontaneous coagulation of the blood in cachectic diseases (Abstract, Vol. II, p. 153), as being a more plausible explanation of the phenomena in question.||

§ IV.—Diseases of the Circulatory System.

28. *Spasm of the Heart.*—The verdict delivered by the jury in the case of the sudden death of Lord George Bentinck has given rise to the insinuation, on the part of an influential cotemporary, that "spasm of the heart" is a creation of the imagination, or is at least a condition which is not understood. He admits that the heart's contractions may be influenced by causes both mental and physical,

* Gazzetta Toscana della Scienze, and Prov. Journal, Aug. 9.

† Prov. Med. and Surg. Journal, July 26, 1848.

‡ Guy's Hospital Reports, Oct. 1848.

§ Prov. Med. and Surg. Journal, May 17.

|| Philadelphia Examiner, May, 1848.

and that in other involuntary muscles, as in the intestines, spasm is no unusual occurrence, but he doubts if spasm of the heart can occur in a healthy state of the organ. In this we entirely differ from him. There is no necessity for pointing out the *a priori* probability that the muscular tissue of the heart can be affected by spasm, as there is nothing in its ultimate constitution different from other involuntary muscular fibre, as it exists in the coats of the intestines, &c.; all we have to ascertain in reference to the justification of the verdict alluded to is, that there are circumstances the operation of which is capable of inducing spasm of the organ in question. It is not difficult to comprehend that many such cases do exist, the influence of which may be either direct or reflected. Among the direct, we would name sudden acceleration of the circulation, or the direct application of the blood charged, *pro tempore*, with some irritating ingredient; the indirect or reflected would be more numerous, consisting of irritation of various kinds, physical as well as emotional, reflected through the spinal marrow upon the cardiac plexus. To take one of these—if mental emotion of a given degree may cause palpitation, why should not a deeper emotion produce a tonic contraction of such duration as shall destroy life? Is not this the explanation of some cases at least of sudden death from mental shock? The explanation is at least as feasible as that which assumes a paralysis of the cardiac muscle.

But it may be further stated, that although the Editor of the Journal referred to and some of his correspondents refuse to admit the possibility of spasm of the healthy heart, such a pathological condition is fully recognised by two of the best authorities on the subject of heart disease of the present day, viz. Dr. Williams and Dr. Latham.

In his 'Principles of Medicine,' p. 374, the former thus writes: "Death by cardiac syncope, or sudden cessation of the heart's action, may occur in two ways: 1st, by the muscle losing its irritability, so that it ceases to contract; and, 2dly, by its being affected by tonic spasm, in which it remains rigidly contracted, losing its usual alternation or relaxation. In both these cases death is quite sudden, the patient expiring with one gasp. In the first case, both sides of the heart are found after death distended with blood, and if the examination were made after death, the blood in the left cavities would be found to be fluid. In the second case, the heart appears small, and very hard; the ventricles are found so firmly contracted, that the cavity is almost obliterated, and contains no blood; the muscle is very firm, but after maceration in water, the walls of the ventricles yield to the pressure of the fingers, and the cavities may be restored to their natural dimensions."

But Dr. Latham is still more explicit. After alluding to Heberden's description of angina pectoris, and showing that he distinctly referred the disease to "spasm" (*distantio*), he proceeds as follows:

"But the heart is a muscle, and its functions flow from its attributes as a muscle. Now we are in search of something in the heart which, as the concomitant of pain, may be disabling to its natural functions, and capable, according to its degree, of abolishing them altogether. This we find in *spasm*."

In a further page, he adds remarks on certain mysterious cases of sudden death analogous to Lord George Bentinck's, and clearly enunciates his belief that such are to be attributed to a first and fatal attack of angina pectoris—spasm of the heart.*

29. *Statistics of Valvular Disease*.—Dr. Whyte Barclay has examined the Museum of St. George's Hospital, in reference to the statistical history of heart disease, and has made the preparation the basis of an elaborate paper, read before the Medico-Chirurgical Society. In this the author exhibits the following facts with regard to seventy-nine cases:—The condition of the valves, aortic and mitral; the age and sex of the patient; the existence or absence of atheroma in the aorta; the previous existence or not of acute rheumatism; the state of the heart as to size, thickness of walls, &c.; the state of the pleura and pericardium, as to recent inflammation or old adhesions; the state of the kidneys; other disease found in the body; and the chief cause of death. The author institutes a minute comparison of the seventy-nine cases, with reference to these points; and remarks, in conclusion,

* Lectures on the Heart, vol. ii. p. 386.

that some of the deductions seem to him "worthy of attention, and demanding at least further investigation. The liability to double valvular disease (rather than disease of either the mitral or aortic valve separately) in consequence of rheumatic endocarditis, and the early incursion as well as the commonly early termination of that disease—the limit put by age in so marked a manner to fibrinous deposit on the valves of the heart—the very large proportion, amounting to almost one half, of the fatal cases of granular kidney found coincident with valvular disease, and its comparative rarity in those cases in which the kidney is large and mottled—are all facts clearly established with regard to these cases. To others must be left to determine whether they hold good in their more general application.

"One commonly received opinion these cases contradict, viz. that atheromatous disease affects by preference the mitral valve; and another is at least doubtful, viz. that it is in the advanced state of Bright's disease that endocarditis is liable to occur, unless we admit a form of endocardial inflammation without fibrinous deposit."

30. *Aneurism of the Aorta*.—Dr. Bellingham has continued his communications on cardiac pathology by the publication of an important series of cases, of which, however, we can only give the deductions drawn; these are to the following effect:

1st. That a double, not a single sound, characterises aneurism of the arch of the aorta, which closely resembles the double sound of the heart, and may be termed its *normal* sound.

2d. That the normal double sound of aneurism of the arch of the aorta has its cause in the friction between the blood and the lining membrane of the orifice and parietes of the sac, because there is no other agency to which it can be referred.

3d. That the normal second sound of aneurism of the arch of the aorta is caused by the regurgitation of the blood into the sac from the aorta and large vessels which arise from it.

4th. That the first, or the second, or both aneurismal sounds, may be replaced by a murmur, which may have either a blowing, sawing, or filing character; and that such murmurs may be regarded as the *abnormal* sounds of aneurism of the arch of the aorta.

5th. That the first aneurismal sound is much more frequently superseded by a murmur than the second, because the force with which the blood is transmitted to the sac by the left ventricle is much greater than that with which it regurgitates into the sac at the period of the ventricular diastole.

6th. That the abnormal sounds of aneurism of the arch of the aorta, equally as its normal sounds, are caused by friction between the blood and the orifice or parietes of the sac; and that they are nothing more than exaggerated normal sounds—exaggerated, because the degree of friction is then increased.

7th. That in aneurism of the arch of the aorta pointing externally, the sound is not always double, but a double impulse is frequently also perceptible to the hand.

8th. That the second impulse of aneurism of the arch of the aorta has its cause in the same agency which gives rise to the second sound; consequently neither a double sound nor a double impulse are perceived in aneurism of the abdominal aorta, or of any of its branches.

9th. That the phenomenon known under the name of *frémissement cataire*, or purring tremor, whether it occurs in an aneurism or a large artery, is nothing more than the pulse of aortic regurgitation on a large scale; consequently that it is a sign of regurgitation into the ventricles of the heart, into an aneurismal sac, or into a large or a dilated artery.

10th. That the remarkable resemblance between the normal and abnormal sounds of aneurism of the arch of the aorta, and the normal and abnormal sounds of the heart, renders it probable that the mechanism of their production is the same.

11th. That the abnormal sounds of the heart, having their seat at the orifices of the ventricles, and being the result of increased friction between the blood and the parts through which it passes, are (like those of aneurism of the arch of the aorta) to be regarded as nothing more than exaggerated normal sounds.

12th. That the impulse of the healthy heart, like that of aneurism of the

arch of the aorta pointing externally, is *double*, not single; and that in certain abnormal conditions of the heart, this second impulse becomes very distinct, when it has been termed "the lack stroke of the heart," or "the diastolic impulse."

13th. That the second impulse of the heart (like that of aneurism of the arch of the aorta) is felt exactly at the period of the second sound; and both sound and impulse appear to be produced by the same agency.

14th. That as sounds almost precisely similar to those of the heart are developed in an aneurismal sac, which has neither muscular walls nor a valvular apparatus at its orifice, the latter do not appear to be as essential to the production of the normal sounds of the heart as most writers suppose.

15th. That the ordinary theory of the heart's sounds, which refers the normal sounds to one cause, and its abnormal sounds to a totally different cause, fails to explain several phenomena connected with the heart's action and sounds.

16th. That the theory of the mechanism of production of the heart's sounds, laid down in the preceding pages, satisfactorily explains every phenomenon connected with the normal and abnormal sounds of this organ.*

[Under the sections of Diseases of the Chylopoietic and Genito-Urinary Systems, we have so few subjects to notice, that we shall postpone them to our next Report.]

§ V.—Diseases of Uncertain Seat.

31. *Diabetes*.—In a clinical lecture delivered at King's College Hospital, Dr. Todd has given an account of some experiments which he performed to test the accuracy of Bouchardat's statement, "that, if all amylaceous ingredients were removed from the food, sugar would disappear from the urine." Two patients were placed in a separate ward, were locked in, and were only communicated with by the nurses, house-physician, and clinical clerks; and by this means they were prevented from getting any aliment which had been interdicted by the physician. During the whole of their sojourn in this ward, which was nearly two months, these patients were confined to a diet almost strictly of animal food, and for one period they only had that diet. From time to time they were weighed, the urine was analysed, and its specific gravity, &c., noted. This mode of treatment was highly beneficial, and the patients greatly improved; one of them, however, afterwards became affected with phthisis, and died. On examining the body of this patient, almost all the organs were found stuffed with miliary tubercles; the mucous membrane of the stomach was in an unnaturally vigorous condition; the liver contained less fat than usual, and the kidneys an abnormally large amount. In summing up, Dr. Todd comes to the following conclusions:—"1. The first of these is, the azotized dietetic plan of treatment is efficacious; that the patients were more benefited by it than by any other means; and that the admixture of a small quantity of vegetable food did not materially interfere with its favorable operation. 2. The evidence furnished by these cases is opposed to Bouchardat's theory, that the sugar is wholly derived from amylaceous food, and is little, if anything, short of a refutation of it. Take, for instance, one of the cases: when he was put into the solitary ward, he was deprived of all amylaceous food, and yet he still continued passing from two to three ounces of sugar daily. But it may be said that this was furnished by the greens which he then took; this, however, could not be the case, for they would hardly weigh as much as the sugar that was evacuated; but there was one period in which he did not even take greens; he took no vegetable food whatever, but lived entirely on meat, and that deprived of fat as much as possible. This period was from the 15th to the 24th of December; notwithstanding, however, this total exclusion of all vegetable matters from his diet for nine days, he evacuated in that time from twenty-five to thirty ounces of sugar, and his own

* Dublin Medical Press, June 28, 1848.

bodily weight was all the while increasing. Whence, I would ask, could this sugar have been obtained? 3. The great increase of the power of the stomach is truly remarkable; these men found no difficulty in digesting four pounds of meat, besides several eggs, in one day—a task twice as great as any ordinary stomach could perform. The highly-developed condition of the mucous membrane of the stomach was, no doubt, associated with this exalted power of digestion, and probably exists in all these cases. 4. The fact that sugar could not be detected in the substance of the kidney goes to show that it is not there secreted, that it does not enter into any organic connexion with the elements of the kidney, but merely percolates in solution through it: hence the disease of the kidney must be secondary. The sugar, doubtless, reaches the kidney in solution in the blood, and there acts upon that organ as a diuretic, passing possibly dissolved in the water that filters through the Malpighian bodies, and not being attracted from the blood through the walls of the tubes. 5. The comparative conditions of the epithelium of the liver and kidneys are very singular, and I am not aware that a similar observation has been previously made; it would tend to show with what avidity all carbonaceous matters, fat as well as sugar, are directed to the kidney in this disease. Most probably to some extent the fat of the liver goes, in common with fat from other parts of the body, to the formation of sugar; but this does not account for the deposition of fat in the epithelium of the kidneys. Lastly, these cases justify the conclusion that this disease is essentially one of the primary organs of digestion, whereby all substances readily convertible into sugar are quickly so converted; and that sugar is not digested, but passes into the blood unchanged, whence it is rapidly eliminated by the kidneys. We must not forget that this was, in fact, the view taken of this disease by Dr. Rollo, an English physician, who was the first to suggest the plan of treatment which all experience proves to be the most beneficial.”*

32. *Gout*.—In connexion with Mr. White's observations on the cause of Gout (see Art. 22), we may notice a communication, in which Mr. Pearl advocates the opinion that the principle of gout may be transmitted by contact, or near communication; in other words, that it is a contagious disease under certain circumstances. In support of this extraordinary opinion, he gives a few illustrations, of the value of which our readers may form their own opinion. He states that he had a most painful and protracted attack himself, in the spring of 1847, which lasted till near midsummer; and that, during the sleepless nights that it occasioned, he thought of every possible cause that could have produced it. It was not hereditary, nor could he call to mind one relation that had ever had it: it could not have been indolence that produced it, nor intemperance, for his habits are temperate, and he takes a great deal of exercise in the open air; then what could have been the cause of an attack that first began in the eyes, and afterwards pervaded the whole system, almost every joint, the skin, and even the pleura? His own reasoning on gout led him to the conclusion that it was an animal poison, and, being so, it might be also communicable, and that he had derived it from some one of the numerous patients afflicted with the gout that he had attended from the autumn of 1846 to the summer of 1847.

He further observes that, in one of his visits to a gentleman who suffered from repeated attacks, and in whose room he remained a long time exposed to the effluvia of his profuse perspirations, he showed him his gouty hands, and told him that he considered he had caught the gout of him, or some one else. “I have thought the gout was catching before,” was his reply; “I inherited the gout from my parents: father and mother, brothers and sisters, all had gout, but none of my late wife's relations. She became gouty after her marriage, and it in a great measure destroyed her. I have often thought she received it from me.”

Again, a patient of the author's, now in business, a very gouty man, declares that none of his relations are so afflicted, and that he became so while he was a valet to a gouty gentleman, whose chalk stones he used often to remove, as well as bandage his legs, and give him every kind of attention when helpless from the disorder.

* Provincial Journal.

There is now living in Windsor Forest, a former valet to a well-known nobleman, a personal friend to the three last kings, who is crippled by gout, and who relates that, when he first entered this nobleman's service, who was frequently attacked by gout, he was thus addressed by him:—"J—, have you ever had the gout?" "No, my lord," was the reply. "Then you will have it. I have never had a valet that did not get the gout before he left me," was the nobleman's rejoinder. And although this man was of an excellent constitution, and not hereditarily tainted by gout, lived in a most temperate and careful manner, and has been all his life one of more than common intelligence, and who avoided all excesses, and adopted such regimen as appeared most likely to cause exemption, he yet got the gout.*

§ VI.—*Diseases of the Skin, &c.*

We have received Nos. 2, 3, and 4 of Mr. Erasmus Wilson's beautiful delineations of Skin Diseases, and can only reiterate the opinion expressed in the preceding Report, that they are the most faithful drawings of the kind ever published; and knowing that the profession in this country, compared with its general acquirements, is but little versed in the subtleties of cutaneous disorders, we would add that the possession of these plates will greatly assist the practitioner in mastering the difficulties of their diagnosis.

The majority of the communications of value on this class of diseases which have appeared since our last Report will be found among our extracts in the present Volume. Of such as have not there been noticed, we shall proceed now to give some account.

33. *Classification of Skin Diseases.*—M. Baron has recently published a classification of skin diseases, which he states that he had devised as long as ten years since, but had, from various circumstances, delayed in bringing forward. The classification is based upon an anatomical basis, in some respects similar to that advanced by Mr. Erasmus Wilson, to whom the priority of publication, though, as it would appear, not of conception, must be conceded. The classification is comprised under the following heads:

1st. *Diseases of the vascular apparatus.*—Roseola, measles, scarlatina, erythema, erysipelas, results of the application of a blister, pemphigus, nævus, and purpura. The principal symptom of all these is redness.

2d. *Diseases of the papillæ.*—Urticaria, prurigo, hyperæsthesia, anæsthesia, and elephantiasis Græcorum. The principal character of these affections is a lesion of sensibility.

3d. *Diseases of the sudoriferous apparatus.*—Abundant diaphoresis, eruption of the sweating sickness, sudamina, miliary eruptions, eruptions accompanying colliquative sweats, vesicular eruptions caused by irritating applications, and herpes. Most of these diseases are acute, and generally connected with a morbid state of the whole system. The most striking local symptom is the existence of isolated or grouped vesicles.

4th. *Diseases of the apparatus secreting the epidermis.*—Ptyriasis, eczema, psoriasis, ichthyosis, corns, or warts. The common character of these affections consists in a modification of the epidermic secretion.

5th. *Diseases of the chromatogenous apparatus.*—Lentigo, ephelides both of the hepatic or melanotic description, vitiligo, and albinism. The principal feature here is an abnormal coloration of the skin, which arises neither from congestion of the vascular network, nor from an effusion of blood, nor from the mixture with that fluid of any foreign substance which might give the skin or other tissues a particular tint; nor, lastly, from a decoloration of the blood; but from an alteration in the pigmentary secretion.

6th. *Diseases of the sebaceous follicles.*—Acne disseminata, acne punctata, acne rosacea, melitagra (?), mentagra, impetigo sparsa, and lupus. The principal lesions to be found in these affections are pustules and very rarely tubercles.

7th. *Diseases of the piliferous bulbs.*—Lichen, favus, trichoma, alopecia, canities.

* Medical Gazette, Sept. 1, 1848.

8th. *Diseases of the matrix of nails.*—Onygon; exaggeration in the ungual secretion.

9th. *Diseases of the fibro-cellular tissue.*—Ecthyma, rupia, varicella, variola, vaccinia, furunculus. These are inflammatory diseases, which rapidly run through their stages. They are all remarkable (excepting furunculus) for presenting a circular and flattened pustule, the central part of which is formed by the epidermis, raised either by pus or purulent serosity; and the circumference by a red margin produced by an elevation of the dermis.

10th. *Diseases affecting different elements of the skin at the same time.*—Scabies.

11th. *Framboesia, molluscum, &c.*, are so little known, that the author did not think it necessary to determine their actual seat.*

34. *Roseola Punctata.*—This term is applied by Mr. Erasmus Wilson to what he believes to be a rare and hitherto undescribed form of skin disease, and of which he has only seen two cases. The characters are stated by him to be—febrile symptoms of a subacute type, accompanied by redness of the eyes; slight coryza, redness of the fauces, ushering in an exanthem at the end of three days, the exanthem appearing on the mucous membrane and the skin; in the latter, in the form of small red spots around the mouths of the follicles, then becoming diffused, so as to cover the greater part of the body, reaching its height on the third day; at first, of a bright raspberry colour, afterwards acquiring a dull roseate hue; the entire attack lasting ten days, of which three belong to the febrile period, three to the exanthem, and four to its decline.†

35. *Baldness, and its Treatment.*—M. Cazenave attributes baldness to three special causes:—1st. Those which cause atrophy of the bulb of the hair. 2d. Those which suspend its secretion. 3d. Those which induce disease of the hair-follicle, or the surrounding skin. In the first class are referred *congenital and senile alopecia*. The most common form of alopecia, and those for which the physician is most frequently consulted, are those originating in a simple default of secretion of the hair, there being no atrophy of the bulb. The baldness which so often occurs after fevers, during phthisis, &c., is of this kind. We must attribute to the same cause the baldness appearing suddenly as the effect of extreme exhaustion of body or mind, or of intense moral emotion. This head includes, moreover, two forms of alopecia, arising respectively from *syphilis* and *porrigo decalvans*.

By syphilitic alopecia, M. Cazenave understands baldness arising in the course of the venereal complaint, without previous disease of the skin of the affected part. He maintains, and justly, that it is due to the syphilitic poison, and not, as some have averred, to the mercury exhibited to counteract its effect, having frequently seen it in those who had never taken that drug.

The *porrigo decalvans* (alopecia circumscripta) is characterized by more or less circular spots on various parts of the head, entirely deprived of hair, and presenting a white and polished surface. Without previous heat or itching, the hairs gradually fall, until a circumscribed portion of skin is left quite bare. The principal seat of this disease is the back part of the head, the temples, and behind the ears. It occurs at all ages; but is rare in infancy, and is more common in women than men. Its duration extends over a considerable period, never less than several months. As the cure approaches, the spot acquires a redder colour; a light down first appears, and gradually the hair assumes its normal strength and colour.

The third group of alopecias includes, first, those arising from disease of the hair-follicle, as in the baldness following eczema, impetigo, and erysipelas, the cutaneous inflammation of which is propagated to the follicle, and affects the secretion of the hair. The loss of hair consequent on these diseases is not persistent, although the hair rarely recovers its normal thickness. This is more especially the case after obstinate impetiginous eruptions.

In the *porrigo favosa*, there is no destruction of the hair-bulb, but the exit of the hair from the skin is prevented. The hair is twisted and folded on itself, and

* Gazette Médicale, and Prov. Med. and Surg. Journal, June 14, 1848.

† Lancet, Oct. 21, 1848.

the bulb from which it grows becomes gradually atrophied. Hence the persistence of baldness originating in this disease.

The secreting apparatus remaining intact, alopecia may arise from a kind of mechanical destruction of the hair, after its escape from the surface of the skin. It is in this manner that is produced the baldness accompanying lepra, and psoriasis of the hairy scalp. But the most common sources of baldness, occasioned in this way, are *ptyriasis* and ringworm.

Ptyriasis or dandruff is the most frequent cause of baldness in women, and consists in a more or less abundant furfuraceous desquamation. The hair, surrounded and compressed at its exit by cuticular scales, becomes dry, readily breaks, and falls off. The efforts made to remove the disease usually increase the loss of hair, and this simple affection may, in the female, become the source of most poignant grief. According to our author, the cuticular exfoliation of ringworm destroys the hair in the same manner.

Treatment of baldness.—Congenital and senile alopecia, as also that arising from favus, are considered by the author to be incurable. In baldness arising from default of secretion, ringworm, or *ptyriasis*, on the contrary, the hair may be restored as strong and thick as before; but not so in syphilitic alopecia, where the restoration is less perfect.

As a local application, M. Cazenave recommends an ointment made of beef marrow, 30 grms.; tincture of cantharides, cloves, and canella, of each 1 grm. (15 grains).*

This is applied night and morning, the part having been previously washed with salt water. Repeated shaving and dry rubbing are also very advantageous. When general debility is present, sulphurous baths, with tonics and full diet, are indicated. In *ptyriasis capitis*, it is recommended to interrupt for a time the dressing of the head, and to wash frequently with weak alkaline and emollient lotions. With this treatment an occasional purgative, and the daily use of the warm bath, may be beneficially conjoined.

PART III.—MATERIA MEDICA AND THERAPEUTICS.

36. *Diet and Regimen.*—The important bearing which a knowledge of the principles of human alimentation has upon the prevention and treatment of disease, is a fact willingly admitted by all, professional and extra-professional; but, strange to say, not only is there a very generally diffused ignorance of the properties, relative digestibility, &c., of various articles of dietary consumption, but there is too often met with a total indifference on the subject. Something of this want of attention is probably, on the part of the profession, due to a species of reaction upon the overstrained doctrines of the chemical school, something, too, perhaps to the opinion that a more minute discrimination of prescribed articles of food savours of quackery. Whatever be the cause, certain it is that, in neglecting to acquaint himself with the therapeutics of diet and hygiene, the regular practitioner deprives himself, to say the least, of a most valuable adjunct to his medical resources, and voluntarily surrenders a *ratio medendi*, which, as is proved by the recoveries occasionally seen under the inanities of homœopathy, is capable *per se* of accomplishing the removal of many forms of diseases, more particularly of the digestive organs.

These remarks have been suggested by the perusal of Dr. Robertson's 'Treatise on Diet and Regimen,' the fourth edition of which is now before us, and which will be found to comprise information not only upon every article of food in general use, but upon various other subjects connected with the maintenance of health. The present edition has been so much amplified, that it may be considered as entirely rewritten—a process rendered unavoidably necessary by the rapid additions to physical knowledge which have been made since the first publication of the work, eleven years since.

Our space will not allow us to give a detailed analysis of Dr. Robertson's two volumes. We can only state, in a concise manner, that the first is taken, up

* Union Médicale, &c.

with an excellent introductory chapter on the nature and causes of diseases, the sanitary influence of agriculture and civilization in general; and a second, in which the process of digestion are briefly considered, and the whole range of dietetics, with the chemical constitution, comparative digestibility and nutritiveness of each article clearly enumerated. In the second volume, the hygienic influence of muscular exercise, ventilation, climate, clothing, bathing, and occupation, meet with an equally careful consideration; and there is given, in addition, a succinct account of the several mineral waters, with their therapeutical applications.

37. *Therapeutics in relation to Depuration of the Blood.*—Such is the title of the subject chosen by Dr. Golding Bird for his course of lectures recently delivered before the Royal College of Physicians. The author's object in this erudite communication is to point out the advantages to be derived in the treatment of disease from a rational reliance upon the light afforded by the researches of modern chemistry; which he shows to be more particularly applicable to the direction of such therapeutical agencies as have the power of stimulating the excretory organs to the discharge of the effete matters of the system, or, as he terms it, the depuration of the blood. At the same time that the author does not underrate the importance of the liver, lungs, and skin in the discharge of their several parts of this great process, he shows that the kidneys must be regarded as the organs of the highest consequence, as they not only possess a function which cannot be participated by other organs, but may also, to a certain extent, become compensatory in their action for the failure in the functions of the other excretories. For this reason, he would extend the principle of medical treatment known as the "alterative" to the kidney, instead of confining it, as is generally done, to the liver, and would call attention to the class of medicines called diuretics, not as mere hydragogues, but as *renal alteratives*.

With this intention, the author announces a fact which he believes never to have been before acknowledged, viz.: that we possess agents, under the term of diuretics, which are able to increase the metamorphosis of tissue, and, at the same time, by stimulating the secretory apparatus of the kidney, to carry the tissue thus metamorphosed out of the body. In taking a practical view of diuretic agents, Dr. Bird divides them into two classes: those which simply increase the quantity of water, and those which act as *renal alteratives*.

To the former class belong all those agents which, out of the body, exert no chemical action on organic matter, and appear to be incapable of increasing the solid matter in the urine, such as copaiba, broom, juniper, squills, &c. In the second series are included those reputed diuretics which exert the influence alluded to, and act as depurating agents. Among them he names the alkalis and their carbonates, and their salts, with such acids as are capable of being converted into carbonic acid in the animal economy; such as the lactates, citrates, and acetates. These, the author thinks, besides increasing the actual bulk of the urine, exert a direct chemical action upon the tissues, and increase the quantity of the solids. That they do so he proves by actual experiment, the results of which he adduces. The author, in conclusion, earnestly recommends a careful trial of these depurating diuretics in the treatment of chronic affections, distinguished by the presence of some product of imperfect organization.*

38. *Medical Treatment of Surgical Diseases.*—Mr. Hunt is engaged upon a series of papers, to which we beg to call our readers' attention, intended to illustrate the great benefit to be derived from the medical treatment of many of those diseases which are commonly thought to be only amenable to the ruder resources of surgical manipulation.†

39. *Anæsthetic Agents—Chloroform—Tests.*—In order to test the purity of chloroform, Dr. Letheby recommends that it should be washed with three or four times its bulk of water, the water being carefully decanted after each operation; four or five times its bulk of quicklime are then introduced into a retort, and carefully distilled in a water or steam-bath. The chloroform thus obtained will

* Lectures on the influence of researches in organic chemistry on Therapeutics. Reprint from Medical Gazette. † Prov. Med. and Surg. Journal, Sept. and Oct. 1843.

be fine, and should exhibit the following properties: 1st, it should be perfectly free from opacity; 2d, its specific gravity should be near 1.496; 3d, it should neither redden nor bleach litmus paper; 4th, it should not become opaque when dropped into water; 5th, it should not be whitened with solution of nitrate of silver; 6th, it should not coagulate white of egg. The last two are regarded as important and easy tests.*

40. *Decomposition of Chloroform.*—Mr. Morson affirms that, under certain circumstances, pure chloroform undergoes spontaneous decomposition, which renders it unfit for respiration. This decomposition appears to be due to the action of the air and light. Free chlorine, hydrochloric acid, and other compounds are formed. These are easily detected and removed. Litmus paper will detect their presence by becoming reddened, and the purification is ensured by repeated washing in distilled water till it ceases to redden litmus.†

41. *Local Anæsthesia.*—The power of inducing local anæsthesia by dipping the affected part in chloroform, or applying externally by means of lint, has been noticed by Mr. Nunneley,‡ Dr. Simpson,§ and others; but as these communications will more properly come under the department allotted to our surgical reporter, we shall here not further allude to them. The first allusion to this method of using chloroform was made in an American journal.||

42. *Therapeutical Employment of Chloroform.*—Inquiries respecting the medicinal employment of chloroform have progressed since our last Report. In *insanity*, it has been used by Dr. M'Gavin, of the Montrose Lunatic Asylum, with more advantage than had previously appeared. In a case of acute mania it calmed the paroxysm, and induced a state of general tranquillity, which conducted much to the patient's ultimate recovery; and in a case of melancholia, with suicidal tendency, the patient was so sensible of its benefits that, when overwhelmed with despair, she would implore the medical superintendent to repeat the exhibition.¶

In *hydrophobia* it has been used twice: in one case it was successful; in the other, which proved fatal, it contributed greatly in assuaging the agonising spasms.

In irritable stomach, in diarrhoea, and in *cholera*, the internal exhibition has been highly lauded; and by inhalation it has produced beneficial effects, which are unequalled by any other of the numerous remedies which have been tried.

43. *Fatal Cases.*—Since our last Report, there have been four undoubted cases of death from the inhalation of chloroform. The first occurred at Cincinnati, U. S., in February last; ** the second at Hydrabad; the third at Boulogne; and the fourth in London.

44. *Naphtha.*—This is another of the many vaunted remedies for cholera, and is said to have been given with great effect in the Russian army. The dose is from ten to twenty drops. The dose was seldom required to be repeated.

45. *Creasote in Erysipelas.*—During a practice of many years, Dr. Fahnestock, of Pittsburgh, has been in the habit of using creasote in erysipelas of the face (as well as of other parts of the body), in both its simple and phlegmonous forms, confining his local treatment to this article alone; and such has been the success of this treatment, that he states he has yet to witness a case which has not yielded to it.

In every case of local erysipelas he immediately applies the purest creasote, with a camel's hair brush, over the whole of the affected surface, extending it some distance beyond the inflamed part, and at the same time administering a dose of calomel, followed by a sufficient portion of jalap, to ensure free catharsis. This, in the majority of cases, is all he finds necessary. But when the mucous membrane of the mouth and fauces is also affected, he pencils those parts with a solution of the nitras argenti, say from half a drachm to a drachm, in an ounce of distilled water.

In the phlegmonous form, it will be found necessary to repeat the application more frequently than in the simple, with the addition of a bread-and-water poultice, applied nearly cold, and well sprinkled with water, strongly impregnated with the creasote, or a cloth, kept constantly wet with the solution, especially for the face.

* Lancet, Sept. 9, 1848, and Medical Gazette, June 16, 1848.

† Pharm. Journ., Aug., 1848.

‡ Braithwaite's Retrospect, July, 1848.

§ Monthly Journal; Lancet, July 22, &c.

|| Boston Med. and Surg. Journ., Apr. 1848.

¶ Report of the Montrose Asylum, 1848, in Monthly Journal. ** Philadelphia Med. Exam.

The creasote, when applied, should cause the parts to become white immediately; if this does not occur, it is not pure. Thus it will be perceived that success depends upon having the best quality of oil. It is worthy of remark that the skin does not become in the least marked by the application, no matter how often it is applied.

46. *Cod-liver Oil, Test of the Purity of.*—Mr. Hockin mixes, on a porcelain slab, four parts of cod-liver oil and one of strong sulphuric acid; when, if it be genuine, a rich violet hue is produced, which in a few moments passes gradually into a dirty-brown colour. This remarkable characteristic, he observes, is not possessed by any other oil, either animal or vegetable.*

We have already alluded to the effects of this remedy in lupus. (See p. 77.) We may state that we have continued to exhibit it in phthisis, with results quite unattainable with any other medicine.

47. *Mercury in Fractional Doses.*—Dr. Fleming has recorded the practice followed by M. Trousseau, of giving fractional doses of mercury, as the $\frac{1}{25}$ th of a grain, instead of the larger quantities usually administered. The dose he gives every hour. Contrary to what might be expected, salivation is rapidly induced, sometimes appearing as early as the end of the first day, and is seldom postponed beyond the third. The advantages of this method of giving calomel are stated to be—1st, the system is brought under mercurial influence as rapidly as by any other plan; 2d, the ptyalism is readily controlled.

In chronic diseases, where it is desired to bring on mercurialism gradually, the same dose ($\frac{1}{25}$ th of a grain) may be given every third or fourth hour, when tenderness of the gums will probably not appear before the fifth or eighth day.

In the treatment of constitutional syphilis, lupus, &c., Hebra, of Vienna, prescribes corrosive sublimate in a similar manner. One grain of the bichloride is dissolved in twelve ounces of water, and of this solution half an ounce is taken thrice daily. In the cases which Dr. Fleming observed of this mode of treatment, salivation presented itself rarely before the eighth day, more commonly about the eleventh or twelfth day.

The merit of having first directed attention to this mode of administering calomel is due to Dr. Law, of Dublin, whose paper on the subject, which appeared in 1839, seems not to have attracted much attention in this country. Dr. Douglas MacLagan has had occasion more than once to verify the statements of Dr. Law.

Dr. Fleming has himself, during the last six months, adopted the practice in about twelve instances with success, in so far as regards the physiological action of the drug. He places in connexion with the above the views of Mialhe on the changes which calomel undergoes in the stomach previous to absorption, and which certainly enable us to understand the *modus operandi* of Law's method of exhibiting calomel. (*Traité de l'Art de Formuler*, p. 5.) It has long been known that, placed in contact with a solution of an alkaline chloride, as common salt, accompanied or not with muriatic or other acids, calomel undergoes a partial transformation into the bichloride and metallic mercury; and as calomel itself is insoluble and consequently incapable of absorption, we must attribute its remote physiological action to this change. The interesting experiments of Mialhe show that the quantity of corrosive sublimate formed bears no proportion to the amount of calomel employed, but is in exact relation to the quantity of alkaline chloride present in the solution. Thus, the quantity of alkaline chloride present in the stomach at any one time, being generally not more than sufficient to convert a very small quantity of calomel into bichloride, it is immaterial, in so far as absorption is concerned, whether one grain or one drachm of calomel is administered, as in either case the quantity of bichloride formed is the same. The frequent administration of small doses, as in Law's method, has the advantage of exposing the calomel to the action of a large quantity of the gastro-intestinal fluids.

According to this view, the exhibition of common salt with the calomel ought to increase its activity in a marked degree, and perhaps the cases of so called idiosyncrasy, where a small quantity of chloride has given rise to severe salivation, may find this circumstance a rational explanation. On the other hand, the changes in chemical composition which the gastro-intestinal fluids undergo during disease will modify powerfully the action of calomel.†

* Pharmaceutical Journal, Sept. 16.

† Monthly Journal.

At a meeting of the London Medical Society, Mr. Hancock mentioned two cases in which he had adopted the above method of giving calomel. In one case he gave $\frac{1}{24}$ th gr. every hour, in the other, the same dose every three hours. In the first, salivation ensued at the end of thirty-six hours; in the second, at the end of forty-eight. The ptyalism was milder, and the bowels were not disturbed.*

48. *Tartar Emetic, Injurious Effects of.*—In a paper on the therapeutic value of tartar emetic in pneumonia, the evidence of which, especially in the first stage of the disease, is generally admitted, Dr. Peebles mentions its occasional influence in retarding convalescence, by inducing a state of system analogous to that observed in scurvy. He narrates three cases, in which uncontrollable epistaxis, spongy gums, &c., declared themselves at the ordinary date of convalescence, and which, in two instances, proved fatal.†

49. *Hydriodate of Iron and Quinine.*—Mr. Battley has introduced a new medicine under the above name. The merit of its composition consists in the fact that the iron exists in the form of a protosalt. The iodine also being in the state of hydriodic acid, acts more mildly than the tincture and its other compounds. The preparation is a syrup, as sugar is necessary to prevent the conversion of the protosalt of iron into the peroxide. The proportions are such that each fluid drachm contains one grain and a half of quinine, one grain of iron, and one grain of iodine as hydriodic acid. The dose is from twenty to thirty drops.‡

50. *Turpentine in Hemorrhages.*—Dr. Percy, § of Lausanne, writes to recommend the use of turpentine in various hemorrhages, but does not seem to be aware that it is in very common use in this country in such cases. [A more intimate acquaintance with the progress of medical science, as it is exhibited in this Journal, would be the means of preventing many writers from obtruding as novelties, opinions and modes of treatment which, to the practitioner who keeps pace with the literature of the day, are as familiar as household words.]

51. *Bismuth in the Diarrhœa of Phthisis.*—Dr. J. Thompson considers the trisnitate of bismuth to surpass in efficacy and safety our most approved remedies for this complaint. He has taken every opportunity, during the last twelve months, of testing its powers, and has preserved notes of twenty-one of the cases in which it was administered. Of these eighteen were of phthisis in various stages of progress, and three, bronchitis. In fifteen of the patients the diarrhœa was entirely removed; in four, transient benefit was experienced; and the remedy proved useless only in two instances. The dose administered was about five grains three or four times daily, usually combined with a little magnesia and gum arabic. Dr. Thompson has referred to various authors who have written respecting the properties of bismuth, without being able to collect from them any evidence of its powers in the phthisical variety of diarrhœa, but he entertains a strong conviction of its peculiar appropriateness to this affection, and has obtained important confirmation of his experience in a recent communication from Dr. Lombard, of Geneva.

52. *Indian Hemp—its Active Principle.*—M. de Courtive has presented to the School of Pharmacy, Paris, a thesis on the Cannabis Indica, which attracted considerable attention. His inquiry was directed to it by the effects he noticed it to produce upon the lunatics in the Bicêtre. He has submitted the cannabis to analysis, procuring the plant from Algiers, or from Indian seeds reared in France. The active principle he states to reside in a resin, which he extracted by a complicated process of maceration and the action of alcohol. From nine to ten parts of this resin were procured from 100 parts of the plant, the larger proportion being furnished by the Algerine drug. He wishes to call the resin cannabina; and states that one grain and two-thirds, or even, in some temperments, half that quantity, produced an equal effect with half a drachm of thick extract.

An alcoholic extract, obtained directly from the plant, may be advantageously employed; but double the quantity must then be used at a dose, since the active principle is more mixed up with inert matters.

* Reported in Medical Gazette, Oct. 13, 1848.

† American Journal of the Medical Sciences, May, 1848.

‡ Medical Gazette, May 12.

§ Dublin Medical Press, Aug. 1848.

M. Courtyve has experimented similarly with the *cannabis sativa* of Italy, and has thence extracted an active resin, which, however, requires to be given in four- or five-grain doses to produce an effect. He considers the differences between the *cannabis Indica* and the *cannabis sativa* to be insufficient to distinguish them as different species; and in this he agrees with Dr. Royle and others.

The resin extracted the author describes as deep greenish-brown; of an aromatic yet nauseous odour; of a hot, acrid, and enduring taste; soluble in cold ether, alcohol, and volatile oils; insoluble in water and dilute spirit. It would appear to contain some fatty matter and chlorophyll.

The leaves are looked upon as the most active parts of the plant.

53. *Atropia, Therapeutic Agency of*.—Atropia is the name given to an alkaloid which represents the active principle of belladonna. It crystallizes in white prisms, is very soluble in alcohol and ether, but not so in water. It is an energetic poison, one sixth of a grain being sufficient to produce the toxic effects of belladonna. As it is an expensive article, and therefore very liable to be adulterated, Mr. Donovan has prepared a process by which it may be obtained pure. He recommends that a drachm of the commercial atropia should be dissolved in an ounce of rectified spirit. If there be a residuum, it is to be separated; then add six ounces of distilled water, and shake the mixture. No change appears at first, but after twelve or eighteen hours the atropia crystallizes into beautiful stellated groups adhering to the sides of the vessel. These, after pouring off the liquor, are collected on bibulous paper, and dried.

Bouchardat exhibits atropia internally, in those diseases in which belladonna has been found useful; as epilepsy, pertussis, &c. He begins with $\frac{1}{12}$ th gr., increasing gradually to $\frac{1}{4}$ th. For external use, the watery solution of eight grains to an ounce is the best. M. Cuvier* has by this succeeded in breaking up old adhesions of the iris, after several weeks' daily application.

54. *Nux Vomica as a Purgative*.—Mr. Boulton, of Bath, suggests, in the 'Provincial Journal,' the addition of a small portion of the extract of nux vomica as a remarkably powerful adjuvant to purgatives. He says, "I ascertained that an aperient scarcely sufficient by itself to produce a single evacuation, when combined with this extract, caused active purgation. The dose must be varied according to the patient's idiosyncrasy; but, generally speaking, a pill, containing three quarters of a grain of Barbadoes aloes, three quarters of a grain of the extract of rhubarb, and half a grain of the extract of nux vomica (*Pharmacopœia Edinensis*), if taken at bedtime, will produce one, or perhaps two, full evacuations the following morning. The addition of a single grain of calomel to this pill will cause two or three bilious motions.

[There is no novelty in this. We have, for some years, been in the habit of combining strychnine with an aperient extract with considerable advantage in habitual constipation.]

55. *Stramonium as an Emmenagogue*.—Dr. Jones, of St. Louis, U. S., speaks confidently of the emmenagogue properties of stramonium, believing it to possess a power of altering the secreting functions of the uterus to a degree not found in other so-called emmenagogues. He gives a case in illustration, which, however, is anything but conclusive.†

56. *Therapeutic powers of Galvanism*.—Confirmation of therapeutic powers of Grapengiesser's method of applying galvanism by plates of silver and zinc, united with a copper wire (vide Abstract, Vol. VI, p. 73), has recently been afforded by Mr. Wells, who details the results of this treatment in the Civil Hospital of Corfu. The cases in which its efficacy has been tested are—ulcers, 30 in number; fistule, 5; fungous growths, 5; nervous disorders, 5. The conclusions which arise out of his observations are these:

1st. That to secure the good effects of the apparatus, the surfaces of the plates must be perfectly smooth and clean, and each must be applied to a spot previously denuded of cuticle; thus, when the effect is required upon one open surface, a small puncture must be made at some other spot, to form the second.

* *Annales d'Oculiste*, 1847, and *Monthly Journal*.

† *Philadelphia Examiner*, May, 1848.

2d. Experience has proved that one of these surfaces must be above the other, and the zinc plate must always be on the uppermost.

3d. When the zinc plate is placed on a slight excoriation, and the silver one upon a suppurating surface, the excoriation is in two days converted into a superficial eschar, an inch in circumference. In six days the slough will have extended to the cellular tissue, and present all the appearance of an eschar from caustic potass.

4th. When an ulcer presents an indolent or lardaceous base, it is destroyed by the application of the zinc plate for three days, and healthy granulations arise. Fungous or exuberant granulations are acted upon in the same way.

5th. When the silver plate is applied to a surface simply denuded of skin, the zinc being placed above, on another such surface, even although the former be freely suppurating, it is very rapidly dried, and covered with a dense pellicle.

6th. When the two plates are similarly applied, the surface beneath the silver being a deep ulcer, rapid and healthy granulation follows. If the silver plate be left upon the granulating surface, after this has reached the surface, these become exuberant and flabby. In practice, therefore, the apparatus should be removed as soon as the granulations reach the surface, and when this is done, spontaneous cicatrization follows.

7th. When the silver plate is applied upon the superior portion of a very large ulcer, this portion only improves in appearance, while the inferior portion degenerates; but if the plate be applied upon the lower portion only, the whole surface of the ulcer improves equally.

8th. In cases where several ulcers exist upon a limb, and the zinc is applied to a superior, and the silver to an inferior one, or to denuded surfaces, all the ulcers situated in a direct line between the two plates improve in appearance, become healthy sores, and cicatrize, while those on either side of the current remain unaltered, and sometimes degenerate.

9th. When the silver plate is applied upon the extremity of a fistulous sore, but little effect is produced; while, if a projecting portion of the silver be carried to the bottom of the fistula, granulation rapidly follows. To fulfil this object, Dr. Cogevina has silver plates perforated by screws of the same metal, the points of which are adapted to the shape of the fistula, and readily projected more or less by a simple turn of the screw. The application in these cases need not be more than a few days; for as soon as healthy granulation commences, the apparatus may be removed, and cicatrization rapidly succeeds.

10th. In several cases normal innervation has been restored in paralysed parts under the use of this apparatus, the zinc being placed superiorly, and the silver inferiorly, so as to include, as nearly as possible, the whole of the paralysed part. Disordered function of particular nerves has been also remedied by so placing the two plates that the nerve lies between them.

12th. The action of the zinc plate is an excellent substitute for the common moxa, and for the caustic potass when obliteration of a vein is denied. In some cases of varicose ulcer, while the silver plate has been used to hasten cicatrization, an eschar has been purposely formed by the zinc over the dilated vein above, in order to obtain a radical cure; and these objects have been readily effected.*

—In a paper on the same subject, Mr. Hinton does not give so favourable an account of the action of the galvanic plates. He notices that the scar left by the slough has a very uneven surface, and would not be tolerated in many cases.†

* Medical Gazette, May 26.

† Ibid., July.

II.

REPORT ON THE PROGRESS OF SURGERY.

BY HENRY ANCELL, ESQ., M. R. C. S.

1. THE discovery of Gutta Serena, of Collodion, or the American adhesive fluid, and of Hydrated Cotton as a remedy for deafness occasioned by perforation of the membrane of the tympanum, will be regarded as among the most interesting novelties recorded in our present Volume. A considerable number of very valuable surgical papers have been laid before the profession since the period of our last Report. The 'Transactions of the Medico-Chirurgical Society of London,' in particular, contains some of the most important; and we regret that, in consequence of the extent of our extracts, and a general index, we shall be enabled to furnish our readers with but a very partial extract, particularly of those which have been recently published.

2. GUTTA SERENA.—This remarkable substance has been for some time past in the hands of the profession, but we abstained from noticing it until we met with some general statement of its employment in surgery; the paper by Mr. Lyon, of Glasgow (art. 60, p. 150), has furnished us with the opportunity; and we have now only to refer our readers to our copious extracts therefrom, and to request them to consider the physical qualities of the material, that they may be apprised of its extensive utility, and with these data every surgeon will be enabled to judge for himself as to the cases in which it ought to be preferred to splints, starch bandages, and other contrivances; we shall only further state, in this place, that, in our own practice, we have employed it in several severe cases with the greatest advantage, and that our experience, to a considerable extent, confirms the account given by Mr. Lyon.

3. COLLODION.—The interest of our journal will be increased by the account we are about to give of another extraordinary discovery, for which we are indebted to our transatlantic brethren, and which, in the opinion of those who have been the first to introduce it to the profession, bids fair to produce another great advance in practical surgery,—we allude to the new American adhesive fluid (art. 49, p. 137). As remarked by the 'Boston Medical and Surgical Journal,' "one achievement prepares the way for another, and we are again taken by surprise with a new preparation, being a solution of cotton in ether." Of its adhesiveness not a shadow of doubt can be entertained; nothing, however, will compare with it in this respect, and it is thought that an entire change in the mode of dressing wounds will follow.

Professor Schonbein appears to have shown, in the first instance, the solubility of gun-cotton in sulphuric ether, and C. T. Jackson, remarked upon this solution, and exhibited specimens of it before a Natural History Society in America, in December 1846, or January 1847, illustrating its use as a brilliant varnish. Dr. H. J. Bigelow, soon afterwards, prepared a bottle according to Dr. Jackson's directions, and, while employing it as a varnish, accidentally smeared it on a fresh wound on the finger. The smarting produced called his attention to the wound, and he endeavoured immediately to rub it off, but it had dried nearly instantaneously, and remained on, the smarting soon ceased, and when the film was removed union had taken place. Since this time Dr. Bigelow has employed it as a dressing for wounds, especially those which it is desirable to unite rapidly by the first intention. The following are the properties of the fluid upon which its surgical application depends:

1st. By its powerful contraction, upon evaporation, it places the edges of an

incised wound in much more intimate contact than is obtained by sutures and adhesive cloth—unites them by equal pressure throughout the whole extent of the wound, and maintains them immovably fixed.

2d. It preserves the wound perfectly from contact with air—being impermeable to the atmosphere, while its adhesion to the skin is so intimate as to preclude the possibility of the air entering beneath its edges.

3d. The substance remaining in contact with the skin and wound after the evaporation of the ether, seems to be entirely inert, so far as any irritating property is concerned, and this can hardly be said of any resinous adhesive cloth or preparation.

4th. It does away with the necessity for sutures in incised wounds of almost any extent.

5th. It is sure to remain in intimate contact with the skin until union is complete—and being quite impervious to water, and presenting a polished surface, it allows the surrounding parts to be washed without regard to the wound or dressing.

6th. It is colourless and transparent, thus permitting the surgeon to witness all that goes on beneath, without involving the necessity for its removal.

7th. No heat is necessary for its application, and the presence of any moderate degree of cold is only objectionable in retarding the evaporation of the ether.

8th. It may be made at a trifling cost—an ounce phial, intrinsically worth little, being sufficient for a great number of dressings.

It is not incised wounds alone which are amenable to its use, though the mode of its application to a stump, or an ulcer, or any wound involving an extensive loss of skin, must be modified.

It is of the first importance that this preparation be properly made and applied. The process for the application is very simple.

For straight incisions, of *whatever length*, provided the edges can be brought together without great difficulty, it is better to apply the solution in immediate contact with the skin, as follows. The bleeding should be arrested, and the skin thoroughly dried. If the lips of the wound are themselves in contact, the surgeon has only to apply a coating of the solution lengthwise over the approximated edges by means of a camel's hair pencil, leaving it untouched after the brush has once passed over it till it is dry, during, perhaps, ten or twenty seconds. This first film will of itself have confined the edges together; but in order to increase the firmness of the support, more must then be applied in the same manner, allowing it to extend on either side of the incision half an inch or more. If, however, the wound gapes, an assistant is required to bring the edges in contact, and retain them so whilst the application is made. If the incision is so long that the assistant cannot place the edges in apposition throughout the whole extent, begin by covering a small portion at the upper end, and apply the solution to the lower parts as fast as it becomes dry above. In this case something more than the film which is left adherent to the skin will be necessary for a safe and proper support to the wound, which may have a tendency to separate. The transparency of the dressing may be still maintained by adapting a piece of gold-beater's skin, or oiled silk, to the wound. This should be covered with the solution, and the membrane applied after the coating is on and already contracted. A dossil of lint, or a strip of cloth, or even a piece of tissue paper, which is thus rendered tough and waterproof, will answer the same purpose, though not transparent. Where there is much separation, it is better to fortify the wound in this way at once, and as fast as the first coating is applied and dry.

In dressing the wound left by the removal of the breast, the preparation may be applied in the same way. If, however, adhesion by first intention be not desired, the gum may be painted on in transverse strips, like adhesive cloth, letting the first strip dry, and giving it the gold-beater's skin support before the second is applied. Thus room is left for the escape of pus, and the exposed portion may be watched without removing the strips.

As a dressing after the operation for hare-lip, or cancer of the lip, where union by first intention, and a narrow linear cicatrix are so desirable, this answers particularly well. The use of one or two sutures to the mucous surface is not

obviated, as the solution will not adhere to the moist epithelium, or to a surface secreting mucus, with sufficient certainty. But this does not interfere at all with the satisfactory result upon the cuticle, as the skin will be probably united before the necessity for removing the sutures arrives.*

In operations for the restoration of parts, as, for instance, the nose, where union by first intention is important, there is no reason to doubt that it would succeed perfectly, as it fulfils so entirely many of the requirements for such union. The same of all plastic operations; and a drop placed upon a small cut, or the puncture of a subcutaneous operation, seals it hermetically.

In dressing an ulcer, where there is, of course, a loss of soft parts, it is better to apply it through the intervention of some medium. A strip of cloth or gold-beater's skin is to be cut of sufficient length, and the two ends covered thickly, an inch or more, with the solution. This strip is applied like a strip of adhesive cloth, so that the middle of the cloth, where there is none of the solution, shall come over the ulcer. After all the strips are applied, the air may be excluded by painting the cloth upon the outside over the ulcer with the solution. The same contraction goes on in drying, and so approximates the edges of the ulcer, and gives it firm support.

The momentary pain arising from the direct application of the ether to an incised surface, which is extremely acute, may be, in a great measure, prevented by the intimate apposition of the edges of the wound. Again, this stimulus is brief, and probably more than counteracted by the refrigerating influence of the evaporating ether. There are undoubtedly cases when such a stimulus would prove beneficial. It is even possible that the rapidity of the union which takes place under a coating of this gum, may be due, in part, to the influence of this stimulus.

Dr. Bigelow mentions some of the surgical uses of the solution of gun-cotton, unconnected with the dressing of wounds. It may probably, he states, be applied instead of starch to a bandage enveloping a limb. Here, again, its power of contraction is a desideratum, as a snug casing is generally desired, and the force is exerted equally. Perhaps the limb may be immersed in the solution without the intervention of the bandage. Several coatings will here be required. Its use as a means of rendering pasteboard splints impervious to water has been suggested by Dr. H. J. Bigelow; and a hundred other applications may be made of it at the bedside by the surgeon, who knows its nature and qualities. The pathologist, with his abrasions thus protected, may enter the inflamed peritoneal cavity with impunity, or examine fearlessly the products of inoculate lesions. In dissection, hang-nails, sores, or abrasions of any kind, will be thus fully protected.

Dr. Payne, dentist, Montreal, appears to have suggested the use of the collodion in burns,† and Dr. Crawford, of the same city, employed it in the case of a young gentleman who met with a severe burn of the face and hands. The burn thus treated was covered with a thin glazing, or varnish, which completely excluded the air. The pain almost instantly subsided, and if the exclusion of air be the chief desideratum in such cases, this remarkable fluid will more conveniently and effectually produce it than any other remedy. Its utility in burns has been confirmed by other practitioners.

4. THE HYDRATED COTTON, as a remedy for deafness, with the cases to which it is applicable, and its mode of application, are so fully described in the copious résumé of Mr. Yearsley's pamphlet, (art. 45, p. 96), that it is unnecessary to do more, in this place, than refer to the extract.

5. IMPERMEABLE SPONGIO-PILINE.—In addition to these discoveries, another substance newly introduced into surgical practice by Mr. Markwick, although a patented article, merits notice. It is a fabric composed of wool and sponge felted together, and then rendered impermeable at the back by means of a coating of Indian rubber. It is stated to possess all the requisites for an efficient and unobjectionable poultice or fomentation cloth, retaining for many hours the essential qualities of warmth and moisture; all that is necessary being to soak it well in hot water, then press out the fluid, and confine the moist spongy surface, as hot as the patient can bear it, closely on the part affected, by means of a linen roller or a

* The Boston Medical and Surgical Journal.

† The British American Journal, Aug. 1848.

handkerchief. Its effects are said to be delightfully soothing and effectual. Its superiority over ordinary poultices and fomentations is testified to by Dr. Conquest, Dr. Basham, Dr. Badeley, and Mr. S. Burman. Mr. Markwick has also patented a beautifully soft waterproof woollen fabric, called simply *Impermeable Peltane*, to be used as a covering for the chest, knees, and other parts of the body in rheumatism, neuralgia, and other affections; which is said to be by no means a less useful invention than the former.* It may be employed as a means of applying liniments, &c., and is made up as knee or shoulder-straps, chest protectors, anklets, lumbago bands, socks, gloves, and in many other forms.

Although these discoveries and inventions may not answer all the expectations of those individuals to whom the profession are indebted for them, or those who have been the earliest in the field to test their application, they must be regarded as very important additions to the resources of surgery; we have no hesitation in saying they are calculated, in a very material degree, to promote the great desideratum—simplicity in the treatment of surgical cases.

6. ANÆSTHETIC AGENTS.—The periodicals of different countries have teemed, since our last Report was printed, with cases and observations on the use of these agents, but the most important circumstances recorded are several fatal cases, occurring suddenly after the administration of *chloroform*, and some interesting papers on Local Anæsthesia.

The following are the fatal cases in question, in addition to 1, that of Mary Greener, recorded in our last Volume (p. 191):

II. Mr. W. Badger, æt. 22, whose father stated that he had always been in good health, but it appeared that he was subject to palpitation after violent exertion. He sat down on a chair, in the surgery of Mr. Robinson, an eminent dentist in London, for the purpose of having some stumps of teeth extracted; before he had taken six inhalations he said that the chloroform was not strong enough—he was laughing and talking; in a moment afterwards his hand dropped from the part of the chair whereon it was resting, then his head, and he never spoke or moved afterwards; the witnesses affirmed that he had not inhaled the chloroform one minute, and he was not more than five minutes in the surgery until his death. About a drachm and a half of chloroform was used altogether. At the time of death the face was livid, pupils dilated, temperature of the body lower than natural, and on attempting venesection only a small quantity of blood could be obtained. On post-mortem examination, the heart and liver were found extremely diseased. The heart was pale and flaccid, and its parietes attenuated, and its tissue interspersed with "fatty degeneration;" the mitral valves were unequal, and slightly rugose; the liver was fatty, preternaturally large, weighing eight pounds, and encroached upon the chest. The broad feature of this case is, that an individual appearing to enjoy good health, although affected with extensive disease of the heart and liver—a circumstance by no means unprecedented—died in the period of one minute under the influence of chloroform, introduced into the blood by inhalation.†

III. The third is a case of a young lady, æt. 30, who had recently suffered from chlorosis and palpitations. She was affected with an abscess in the right thigh, supervening a wound. Dr. Gorré, surgeon of the hospital at Boulogne, employed about a teaspoonful of the chloroform in a handkerchief; immediately on respiration of the vapour, the patient first became agitated, and moved her hands convulsively, and she was soon motionless and unconscious. Dr. Gorré then made an incision into the abscess; after he had done so, he heard one or two deep and laborious inspirations, and seeing no further signs of returning animation or consciousness, he examined more particularly, and found every appearance of life extinct. During an hour a movement, or pulsation, was observed in the course of the jugular veins, and several fruitless attempts at resuscitation were made. On post-mortem examination, abundant bubbles of air were found interspersed with a pale red fluid in the cerebral veins, the jugular veins contained air and no blood, and the veins of the left lower extremity contained air and blood; there was a considerable quantity of bloody serum in the left side of the chest, and in the pericardium; the heart was fat, large, flaccid, empty, and collapsed; the skin was of an alabaster

* Medical Times.

† Lancet, July 8.

whiteness, and the blood throughout the body fluid, and as black as ink. The stomach contained a considerable quantity of half-digested food. Drs. Rouxel and Gros reported to the Procureur de la Republique that death was the consequence of syncope, produced by the suspension of the cerebral functions under the anæsthetic influence of chloroform, rendered more readily fatal by the abnormal organic condition of the heart, that in all probability the air in the veins was produced spontaneously, as in some of the cases of sudden death recorded by Morgagni, and that this might have rendered the death from chloroform more sudden and inevitable.*

iv. The fourth case, which, in point of time, should have preceded the other, is that of Mrs. Simmons, a nervous woman, æt. 35, who inhaled the chloroform at a dentist's. She took the vapour from a Morton's inhaler, breathing at first slowly; she inhaled 12 or 15 times, occupying from 60 to 75 seconds; the face was at first pale; at the expiration of the above period four roots of teeth were extracted, the patient groaned, and manifested what the female attendants considered evidences of pain, although she did not speak; as the last root came out, which was about two minutes from the commencement of the inhalation, the patient's head turned to one side, her arms became slightly rigid, and her body drawn somewhat backwards; at this period the female attendant, placing her finger on the pulse, found it feeble, and it immediately ceased to beat; respiration also ceased about the same time, and the face and finger nails now became livid, the lower jaw drooped, the tongue projected at the corner of the mouth, and the arms were perfectly relaxed. The most persevering efforts were made to resuscitate her; ammonia, cold-water affusion, mustard, brandy, &c., were first employed. Medical aid was obtained about 36 minutes after respiration had ceased, when artificial respiration, electro-magnetism, and external stimulants were resorted to. The electro-magnetism caused active muscular contraction, but had no effect upon the heart; and some slight removal of the lividity of the countenance was produced by the artificial respiration, but not the slightest sign of life was manifested; one of the dentists present thought life was extinct in about five minutes, another says about ten minutes. On post-mortem examination, 26 hours after death, bloody froth was found issuing from the mouth; two or three ounces of fluid blood; intermixed with bubbles of air, flowed from the sinuses of the dura mater, and there was a larger quantity of blood than usual in these vessels; a small quantity of bloody serum was contained in the pericardium and pleuræ; the heart was flaccid, and all its cavities entirely empty, and their inner membrane deeply stained; the aorta, pulmonary arteries, and cavæ within the chest were empty, and a very small quantity was found in the abdominal vena cava; the lining membrane of all these vessels being deeply stained. The kidneys were congested, the liver pale, and empty of blood, the stomach and intestines distended with gas; the blood was fluid as water in every part of the body; not a coagulum to be seen in any vessel; under the microscope the globules appeared altered somewhat in form, some were irregular in shape, and they appeared generally distended, and more globular than normal; they were also somewhat fragmentary, a part apparently having been ruptured, and their number somewhat diminished; the colour of the blood, in many parts of the system, was that of dark venous blood.†

v. The fifth case has been reprinted in the journals from Allen's 'Indian Mail' of July 4; it occurred at Hyderabad, in Scinde. A drachm of chloroform was administered to a young woman, of an apparently healthy constitution, by means of a pocket-handkerchief; a few convulsive movements occurred; when these subsided, the surgeon made the necessary incision for the amputation of a finger, which occupied only a few seconds, and scarcely a drop of blood escaped; she was then placed in a recumbent posture, with her head low, to bring her out of the state of coma into which she had apparently fallen; artificial respiration and other means were resorted to for five hours, but she never breathed again. The operator states that he thinks death was instantaneous, for after the convulsive movements above mentioned, she never moved, nor exhibited the smallest sign of life. No post-mortem examination was made.‡

* Lancet, July 24.

† The Western Lancet and Hospital Reports, March, 1848.

‡ Lancet, July 22, p. 99.

vi. Dr. An*erson, of Birkenhead, allowed a dentist to administer chloroform to him, prior to extracting a molar tooth, on Friday, March the 10th. The rest of the day he felt much excited, and experienced a "peculiar rushing of the carotids." He had suffered from pectoral symptoms for some time previously, and on the day following the inhalation, had burning pain in the back of the chest; about 11 o'clock at night, hemorrhage occurred from the lungs, of which he considered the chloroform the exciting cause. Measures appropriately active were resorted to by his medical attendants. The hemorrhage returned twice in the following day, and again on the 13th and 15th, when it resulted in fatal syncope. The opinion given to the coroner by Dr. Robertson in this case was, "that the deceased died from natural causes, and not from the effects of chloroform;" the opinion of Mr. Macdougall was, "that the deceased most probably suffered from tubercles of the lungs, and that the exciting cause of the hemorrhage was the inhalation of chloroform."*

vii. The seventh case is recorded in the following statement to the Academy of Medicine, made by M. Robert. A young man, twenty-four years of age, very corpulent, but of a sluggish, lymphatic constitution, was admitted into the Hôpital Beaujon on the 25th of June last, wounded in the left thigh by a ball, which had entered anteriorly, and passed out behind, injuring greatly the limb. The disarticulation of the thigh was decided on. The patient was placed under the influence of chloroform. In three or four minutes after the commencement of inhalation, convulsive movements characterised the stage of excitement, which were soon succeeded by complete insensibility. M. Robert immediately commenced the operation, and the patient scarcely lost a drop of blood. When, however, the first incisions were made, for an instant the patient appeared to show signs of returning sensibility, and M. Robert ordered the chloroform again to be inhaled. Hardly had a quarter of a minute elapsed before the respiration became stertorous, at which moment the apparatus for inhaling was removed; the face and lips turned deadly pale, the pupils of the eyes became dilated, and turned upwards under the lids. The operation, of course, was immediately suspended, and M. Robert, with his assistants, did all in their power to restore the patient, whose breathing was now become short. The pulse was, however, perceptible, but the limbs were completely relaxed. Frictions on the skin were immediately used, the pituitary membrane was irritated, and the arms and chest stimulated. Frequently the respiration appeared about to be renewed, and the pulse appreciable; but these favourable symptoms were only momentary, and, after three quarters of an hour's incessant efforts of the surgeon and his assistants, it was found that no symptoms of returning life were manifested.

M. Robert was inclined to think that the condition of the wound under which the patient laboured, producing a great shock to the nervous system, such as usually attend gunshot wounds when inflicted on important joints, and the moral disposition of the patient, all tended to produce the fatal result.†

viii. We observe a notice of the death of Mr. Carruthers, a gentleman of fortune, who lost his life from the incautious application of chloroform; he was affected with asthma, and had frequently obtained relief from the agent. He was found dead in the morning, sitting at a table in the same position the servant had left him the preceding night, with the chloroform and handkerchief before him. We have not at present seen the account of this case in the medical journals.‡

In appreciating the importance of the above cases, we are bound to take into the account the fact of their occurrence at a period when anæsthetic agents were *sub judice*, and that the total number of deaths recorded constitutes a very small proportion indeed of the numbers of individuals who, during the period in question, have been subjected to the anæsthetic influence. Mr. Robinson states that he had employed the agent between *three and four thousand times*, before the fatal case occurred which is the first in the above list. It is not to be concealed, however, that injurious results, short of death, sometimes occur. For instance, Mr. H. Popham relates the case of a young lady, apparently in perfect bodily

* Lancet, July 22.

† The Medical Times, July 23.

‡ The Times, Nov. 12, from the Carlisle Patriot.

health, but of "a nervous and excitable temperament," in whom chloroform produced convulsions and the recurrence of a paroxysm of insanity;* and the author publishes the case, to show the necessity of ascertaining, before we venture upon giving it, "that the brain be free from disease." Thus, the facts before us seem to imply that the *heart, lungs, and brain* must be in a *physiological* condition, before we can administer chloroform with perfect safety. The case of Mrs. Simmons especially, indicates that the *Temperament of Civilization* (the nervous temperament), at all events when highly marked, must be regarded with distrust in reference to the production of more or less complete anæsthesia. These cases justify our remarks upon the subject in our last Report,† and the general principle there developed will be found to comprise the means of avoiding the most deplorable consequences. We should not convey to our readers the actual state of this great question, if we omitted to mention that Dr. Simpson continues the general—nay, almost universal—employment of chloroform; he has just published another elaborate paper‡ containing, with other interesting matter, "the Results of the Practice of Anæsthesia in Midwifery." Dr. Simpson delivered about 150 patients in this artificial state; he has not met with a fatal result, nor does he admit of any injurious effects having been produced either in the mother or child; his paper contains also reports from numerous accoucheurs, the tenor of the whole being most favorable to the practice. We were inclined, in the first instance, to attribute Dr. Simpson's success to the *visus et tactus eruditus*, by which he is enabled to reject that small number of individuals in whom a state of anæsthesia, produced by chloroform, would be death, and by which he is enabled to regulate its action safely; but it does not appear that he makes any discrimination of cases, and, according to the last paper, his experience appears to be supported by that of many other individuals. The most remarkable circumstance is, then, that the evidence at present before us of the effects of anæsthesia in the parturient state, is opposed to that which applies to anæsthesia in general surgery, and the profession must necessarily await the extension of its statistics before it can arrive at a definitive judgment upon the whole question. (See Midwifery Report.)

Local Anæsthesia.—Dr. Simpson some time ago published a paper, to show that the production of a state of general anæsthesia, before the performance of surgical operations, is not an idea of modern times.§ We have received an essay from the same gentleman, in which he states that the ancients seem also to have entertained the idea of producing a state of *local* and limited anæsthesia in the part to be operated upon; in illustration of which fact Dioscorides is quoted. More than half a century ago, Moore ingeniously proposed to effect a local anæsthesia of any limb that was to be operated upon, by previously compressing, with tourniquets and pads, the nervous trunks going to the limb, and the plan was tried under John Hunter, with but partial success, upon a patient at St. George's Hospital, London. Dr. Simpson proceeds to relate experiments performed by himself, 1st, upon the lower animals; and, 2dly, upon man; with a view to the possibility of the production of such a state of local anæsthesia, by the local application of chloroform, or other anæsthetic agents, to individual parts of the body, and has arrived at the following conclusions:

1st. In animals belonging to the class of Articulata, complete local and limited anæsthesia can be produced by the local and limited application of the vapour or liquid of chloroform to individual parts of the body of the animal.

2d. In Batrachian Reptiles, the tail, or an individual limb, can be affected in the same way with local anæsthesia, by the local application of the chloroform; but, in addition, general anæsthesia of the animals usually results in a short time, in consequence of the chloroform absorbed by the exposed part coming to affect the general system.

3d. In the smaller Mammalia, a single limb, or even the whole lower or pelvic half of the body, can be rendered anæsthetic by local exposure of these parts to the influence of chloroform.

* Lancet, August 5.

† Half-Yearly Abstract, Vol. VII, p. 202.

‡ Monthly Journal, Oct. 1848, p. 209.

§ Monthly Journal of Medical Sciences, 1847-48, p. 451.

4th. In the human subject partial, and perhaps superficial, local anæsthesia of a part, as the hand, can be produced by exposing it to the strong vapour of chloroform; but the resulting degree of this local anæsthesia is not sufficiently deep to allow the part to be cut or operated upon without pain.

5th. Any agent possessing a stronger local benumbing, or an anæsthetic influence, would probably be dangerous, by its acting too powerfully on the general economy, before the local anæsthesia was established to a depth sufficient for operating.

6th. Artificial local anæsthesia, from any known anæsthetic agents, seems objectionable in any part intended to be operated upon, in consequence of the vascular congestion and injection which attend upon and accompany this local anæsthesia.

7th. There are few operations in which there is not previously a local broken surface; and the application of chloroform, &c., to such a surface, would be far too painful to be endured, no small degree of suffering sometimes arising from even the exposure of the unbroken skin to their action.

Dr. Simpson's paper is of the more importance since Mr. Nunneley, of Leeds, has performed some interesting original experiments, to prove the *value and safety* of the local application of anæsthetic agents.* Mr. Nunneley states, that either by *immersion* in a small quantity, or by the *vapour applied* merely for a limited period, a limb may be rendered *perfectly motionless and senseless*, and what may be an additional advantage, *fixed in any desired position*. He had immersed his finger in these fluids for about half an hour or an hour, and at the end of this period the finger was nearly powerless and insensible, and that it was forty-eight hours before the effects entirely disappeared, a sensation of heat and discomfort extending along the tract of the nerves to the axilla. Before operating on a difficult case for artificial pupil, he had applied, for twenty minutes, a small quantity of the vapour of chloroform to the eye, by means of a small jar which accurately fitted the orbit, with the effect of rendering the parts nearly insensible. The first effect of these agents, when locally applied, is to produce redness, heat, and smarting, which subside, followed by swelling and redness of the integuments, which remain for some time. Mr. Nunneley states that he could completely paralyse any limb of frogs or toads by immersion or exposure to the vapour, in about five minutes or less; and he mentions, as a curious fact, that if the exposure to the influence were continued longer than was sufficient to produce a local effect, this influence extended to the corresponding limb of the other side: thus, for instance, if one hind leg became *too much* influenced, the other hind leg partook of the same effect; if the fore leg were too much affected, then the other fore leg became so likewise, and, subsequently, the whole body; a result which Mr. Nunneley mentions as strongly corroborative of his experiments with prussic acid, as detailed in the last volume of the 'Provincial Transactions.'

A further practical illustration of this principle is reported by Mr. Spry, surgeon to the Truro Infirmary, who resorted to the local application of chloroform in the case of a tumour, two inches long and one inch wide, on the sole of the foot, which had to be removed. Folded lint, saturated with the chloroform, was applied to the tumour, and a piece of oiled silk placed over it. In a quarter of an hour, the lint was again moistened with the chloroform, and in about half an hour, about two drachms having been employed, he could bear pressure on the tumour without complaining. The patient declared after the operation, that he felt only a very trifling pain at the deepest part of the dissection, but none during the division of the skin, cellular membrane, &c.†

—We find an extract, bearing date some time antecedent to these latter communications, from an American journal, to the effect that chloroform had been applied with success to a wound of the hand, in which the radial nerve seemed to be implicated. A piece of sponge was moistened with the anæsthetic agent, and applied to the wound, over which a piece of oiled silk was bound, and on the next morning, all traces of the painful implication of the nerve are said to have been removed.‡

* Provincial Journal, June 28, 1848.

† Ib. Aug. 28, p. 459.

‡ Medical Times, May 20, 1848.

7. GUNSHOT WOUNDS.—This subject is treated of so extensively in the French journals, that it would constitute a volume to give anything like a complete statement of the principles and practice adopted and discussed by the leading surgeons in Paris. The insurrections of Paris and other continental cities have given civil surgeons of the highest eminence an opportunity of investigating, we may say thoroughly, this important branch of surgery, which has hitherto been treated of mainly by military surgeons. The circumstances under which the wounded have been placed, in the recent combats, differ very materially from those which accompany the ordinary course of military and naval warfare, and new views and enlarged statistics are likely to open upon the subject. Sufficient time has not yet elapsed for the results of treatment to develop themselves in full, or that the whole may be collected and compared, but it cannot be doubted that some experienced surgeon will undertake to do this, and that, before long, we shall meet with a complete treatise which will enable us to bring these results before our readers. In the mean time, we introduce a condensed statement of M. Velpeau's lectures, as furnished for the '*Lancet*' by M. Victor de Méric (Ext. art. 46, p. 101), selecting these as the most complete, practical, and methodical papers before us, and on account of the experience and high reputation of their author; and we purposely abstain from confusing our readers with a detail of partial statistics and controverted points, until the innumerable facts which must develop themselves in the continental hospitals have been more deliberately considered. There are some very striking circumstances in M. Velpeau's treatment of these injuries. It will be observed, that he is a strong advocate for the practice of our own Wiseman, and the French Le Dran, viz. where primary amputation is necessary, to operate quickly—in the "period of stupor," a period defined as lasting from twenty-four to thirty-six hours—not waiting until reaction is established, and inflammation set in. If, from any cause, amputation is not performed immediately, he then defers it until a still later period, and he is thus opposed entirely to that school of surgeons who, with Faure, Bilguer, and Hunter, advocate delay or repudiate amputation altogether. Professor Velpeau objects also to the use of anæsthetic agents, upon the principle that, when the nervous system is already so much depressed, as in the stage of stupor after a gunshot injury, it is not expedient to employ agents which, like chloroform, produce their effects by depressing the nervous energies. Another more striking circumstance in the extracts in question, is the remark of Velpeau on the analogy between the after-symptoms of gunshot wounds and cases of poisoning, and his opinion that these symptoms are really produced by a poison generated in the tissues from stagnant blood or secretions, and absorbed and conveyed into the blood; so that the supervening condition is truly a blood disease. As a general rule, M. Velpeau advocates amputation when gangrene sets in, before the appearance of a line of demarcation, admitting, however, of some exceptions. His great reason for this practice is, that so soon as deleterious substances are absorbed into the blood, the organism will not be able to cope with the double effects of the poisons and of the operation. He is against the practice of incision, as adopted by Dupuytren. M. Velpeau is a powerful advocate of the contagiousness of hospital gangrene, and of its animalcular origin.

He regards the position of a wounded limb as an item, in the treatment, of very great importance, but instead of adopting a dogmatical rule, like some recent writers upon this subject, he points out that the position should be appropriate to the circumstances and stages of wounds. During phlegmonous inflammation, for instance, it should be kept elevated, but if purulent matter be formed, no measure could be more erroneous in principle, or more injurious; a dependent position being then required to prevent the formation of sinuses, and to form an obstacle to the purulent matter graduating towards the trunk.

—Amongst the other papers before us on this important and extensive subject, we may mention a letter from Dr. C. Kidd, of Limerick, addressed to the Editor of the '*Dublin Quarterly Journal*,' with some most interesting details from the Paris hospitals.* Our limited space completely excludes any abstract of this letter, and we can do no more than recommend its perusal to all who interest them-

* Aug. 1848, p. 216.

selves in the subject; they will find important facts and statistics from the practice of MM. Gerdy, Morel-Lavellec, Jobert, Malgaigne, Gosselin, Roux, Manoe, Voillemier, and Baudens, as well as Velpeau. Dr. Kidd remarks, that the principal hospitals were completely inundated with frightful cases, and he believes that whatever else may result from the insurrection, it is likely to be attended with very eminent advantages to surgery, and the treatment of gunshot wounds in particular.

—Dr. Waters has also published a paper more recently on the same subject, in which he attempts to estimate the value of the different modes of practice, and to throw light on points respecting which diversity of opinion still exists.*

8. PENDULOUS TUMOURS.—In the department of general surgery, after the various papers on gunshot wounds, perhaps there is no other subject which has been so fully and practically treated as this, by Dr. O'Ferrall.† There is no class of cases in which the science is more frequently brought to bear upon the art of surgery, in all countries, seasons, and localities, than in this, and we shall accordingly bring before our readers the substance of this important essay. Dr. O'Ferrall sets out with the remark, that pendulous tumours have peculiar characters arising from their form, their depending position, and the nature of their attachments, and, in a great degree, from their organization and the functions of the part from which they spring. Those which arise internally from the mucous and serous membranes, have received from pathologists more attention than those which occur externally, and of the latter, *molluscum* is almost the only variety which has been specially considered. Dr. O'Ferrall's paper accordingly treats more especially of the external pendulous tumours, and it comprises most interesting cases, illustrated by woodcuts.

Of the *Anatomical Characters* of such tumours:—Some are common to all, others are peculiar to the situation of the morbid growth. A prolongation of the common integument forming the pedicle, is expanded over the tumour, and is here either equal and smooth, or irregular and warty, according to the organization of the locality. The length of the pedicle appears to be, in a great measure, determined by the size and weight of the tumour; but the apparent length is often much greater than the reality. This arises from traction. The correction is easily made by poising the tumour on the hand. The skin immediately recovers its natural position, and the actual length of the pedicle is seen. In operating, it is desirable to establish this point, in order to avoid a cicatrix unnecessarily large.

When the pedicle, Dr. O'Ferrall remarks, is narrow, an artery and accompanying vein occupy a considerable portion of the thickness of the neck, and distribute branches through the bulbous portion. The artery is sometimes so large as to yield a pulsation equal to that of the radial artery of a child. The ramifications are extremely minute. It is difficult to accomplish the injection of the vessel, for the contraction of the skin, when the part is removed from the body, suddenly diminishes the volume of the tumour in a remarkable degree, and expresses the liquid contents of its cellular tissue. The pedicle, which before operation was, perhaps, four inches long, becomes instantly shortened to an inch and a half or two inches, and recedes upon the surface of the tumour.

The vein, in such tumours, is a simple cylinder, its radicles being, like the branches of the artery, exceedingly minute. No structure analogous to valves can be detected. This, the author remarks, is worthy of observation, as connected with the tendency to oedema and lividity which those productions, when of any considerable size, invariably exhibit. The circulation is less simple in the adipose variety. The pendulous nœvus may also be supplied by more than one vessel. The same may be true of the pendulous tumour which has become malignant; but the arrangement will be found to depend on the breadth of its attachment to the surrounding parts.

The general appearance of the section of pendulous tumours is that of areolar tissue, more or less hypertrophied, and containing in its meshes a limpid secretion. The whole has a pearly or whitish semi-transparent appearance, when of the simplest kind. The granulations which spring from these tumours, when the skin has given way, have invariably the red fleshy tint of a highly organized part.

* Monthly Journal, Oct. 1848, p. 351.

† Dublin Quarterly Journal, Nov. 1847.

To the tissues already named, and which constitute the simplest form of pendulous tumour, may be added others, which give it a special character. Thus the cellular tissue may contain adipose substance in quantity sufficient to give it the character of a fatty tumour. The cellular tissue may be occasionally the basis of an accidental erectile formation. The tumour in such cases has the uneven purple colour of the *navus*, and is capable of great reduction in its volume when compressed between the fingers. A section of these tumours shows the numerous apertures of vessels divided in different directions with respect to their axes.

When a tumour of the pendulous kind grows from the nipple or areola of the female breast, it will be found to include some elements peculiar to the part. The glandular follicles descend with the tumour as it grows, and form a part of its structure. These follicles become hypertrophied, and add to the volume. The growth of tumours springing from the areola is more rapid than that of others in the neighbouring portions of the female breast. Dr. O'Ferrall has not seen any pendulous tumour in the latter situations as large as those which are productions of the areola. He was consulted by a lady who had two pendulous tumours on the right mamma; both were, according to her account, on the part as long as she could remember. One was about the size of a small pea, soft, without colour, and suspended by a pedicle of extreme tenuity, growing from a point two inches distant from the nipple. The other was as large as a chestnut, brown in colour, and slightly irregular in its surface. The pedicle of the latter was thicker, and grew from the areola quite close to the nipple.

The presence of the glandular and sebaceous follicles in these tumours imparts to them other characters. Their surface becomes irregular; they are bedewed with a secretion, which acquires a peculiarly fetid odour if allowed to accumulate. Patients are so much afraid to touch or irritate such tumours, that the secretion is permitted to congregate on the surface. When this is irregular, and when the hypertrophy of the follicles causes them to project, the whole assumes a warty appearance, each projection being coated by the concretion, slowly, but constantly increasing, until it assumes an appearance resembling ichthyosis. These verrucous projections can be separated to the depth of two or three lines, the cleft being found moist, and emitting an offensive exhalation.

A section of a tumour of this description exhibits a remarkable lactescent whiteness in every part except at its margin, where the warty-looking prominences are found, contrasting strongly with that of the simpler productions from other parts of the breast. Dr. O'Ferrall has met with but one variety of malignant growth (the encephaloid) in these tumours.

Morbid alterations in pendulous tumours.—Pendulous tumours, nourished according to the general laws which preside over other portions of the same organism, are susceptible of the same morbid changes. Some of these seem to depend on the retardation of the circulation within the tumour, from their depending position. The arterial supply increases with the volume of the tumour itself. There is not that provision by which the venous circulation is supported against gravity in other parts. The enlargement of the tumour is thus accompanied by a disposition to congestion. The capillaries of both systems become dilated, and the surface acquires a purplish tint, in some places inclining to the arterial, in others to the venous hue.

Some increase of solidity is generally added to the other characters of the tumour at this period. The induration of the cellular tissue and skin is irregularly disposed, and (if the tumour be large) gives the surface an uneven figure, which may excite suspicions of a malignant taint. The experienced practitioner will have no difficulty in distinguishing, by the touch, the hardening here alluded to, from any more formidable degeneration.

Edema of pendulous tumours is another condition to which the capillary congestion almost inevitably leads. The surface of the most depending part gives a doughy sensation; and this is occasionally so great as to decide the inexperienced, and lead to the opinion that matter has formed. If the cellular membrane be of loose texture, this mistake is more likely to occur. Dr. O'Ferrall saw a lady some time ago with a pendulous tumour growing from the right labium, the size of a large orange, with a pedicle four inches in length. The bottom of the tumour

was discoloured, and had the mark of a lancet puncture, made by a practitioner the day before, with the view of giving exit to matter. Nothing but serum, mixed with blood, had escaped. The tumour was removed at once, and no further accident occurred.

Suppuration will, however, take place in pendulous tumours exposed to much friction or injury. A gentleman consulted Dr. O'Ferrall on account of a tumour growing from the right natis, close to the transverse fold. The pedicle was broad, and about an inch long, consisting of the surrounding integument, drawn down by the weight. The fundus had a small opening through which pure pus was constantly oozing; a probe passed into this aperture could be made to move freely in a cavity an inch in depth. The remainder of the tumour was palpably of the adipose kind, some portions having undergone remarkable solidification. The whole mass was the size of a melon. It was easily removed. The cavity of the abscess was lined by false membrane, similar to that found in an ordinary abscess.

Abrasion of the cuticle covering a tumour, in which oedema has been established, gives rise to some curious alternations of increase and diminution of its volume. The whole tumour becomes anasarctous in many cases; and, when abrasion takes place, it is succeeded by an oozing of serum, resembling that which occurs from the legs of dropsical patients. The bulk is rapidly diminished by the escape of this watery fluid. If the patient remains in bed, the part heals, and the former size is again reproduced. This alternation of increase and diminution has been described to Dr. O'Ferrall by several persons labouring under the disease.

Ulceration of the skin is deserving of especial notice, on account of the resemblance which the granulations occasionally bear to the fungus of malignant disease. The fundus of the tumour may exhibit in succession all the changes already described—congestion, oedema, abrasion; and at length the entire thickness of the skin gives way. The granulations which are produced from this surface, irritated by the patient's dress, and congested, from their position, present an aspect very different from that of granulations from any original portion of the organism. They are large, dusky red, easily made to bleed, and exhaling a very fetid odour. Their exuberance sometimes exceeds their vital power, and they slough and throw off a portion of their surface.

Hypertrophy of the cervix is sometimes observed to follow the general inflammatory state of the bulbous portion, produced by friction or irritation. Dr. O'Ferrall has observed this change most frequently in those which spring just below the occiput. The neck becomes indurated and enlarged; its colour vascular and dusky; and it is painful when pressed. This induration may take place without much discoloration, but it generally extends itself a little way into the surrounding skin. The tumour now seems to droop less, and the cervix to be more erect, and shorter than before.

If the section of the neck of a tumour in this state be made in the manner suited to those with narrow pedicles, there is a probability of its being reproduced. The cicatrix left after the operation is more prominent and harder than the surrounding skin, and gradually becomes elevated into a new tumour.

Independent of the more chronic alterations, this class of tumours may become the seat of acute inflammation. In a case of erysipelas, which spread over the chest of a lady, a pendulous tumour the size of a filbert, growing from the areola, suffered in common with the neighbouring parts, and, possessing less vitality than them, sloughed in the progress of the case. In another case, the tumour inflamed; bullæ, containing a dark fluid, formed on its surface, and a superficial ulcer remained on the subsidence of the attack.

History of pendulous tumours.—They are apparently more frequent in female patients than in males. They may be congenital, or formed at any subsequent period of life. Of the former class, some remain stationary, or grow so little after birth, that their growth cannot be said to keep pace with the development of normal parts. They are found, at a mature or advanced period of life, to be in size nearly as they were observed at the time of birth, having lost, perhaps, the plumpness belonging to the skin of infancy, and their colour being changed by age with that of the surrounding skin, or a little deepened or dusky at the bulb from

venous congestion. Others, after remaining stationary for an indefinite period, enlarge, inflame, and become the seat of morbid action, or the nidus of morbid deposit. The earliest change is often traced to some accidental friction or laceration, to which, from their form, they are so much exposed. When a pendulous tumour begins to enlarge, its hypertrophy is attended by some or all of the other phenomena described in the beginning of Dr. O'Ferrall's memoir under the head of *morbid alterations*.

In this category may be included those tumours which, existing in a different form at birth, acquire their pendulous shape at a later period, and apparently in consequence of an increased volume, the weight of which occasions, by traction, an elongation of the skin. The pendulous nævi are generally so formed. At birth there may be a simple elevation of the skin, stained, as usual, by the colour of the blood contained in the erectile tissue. The colour varies from one shade to another. This elevation of the skin may remain unchanged for years, and at length begin to expand; but once the impetus is given, the bulk of the swelling generally increases; and if the growth is so situated that gravitation is almost constantly operative, the pendulous form is eventually acquired. The characters of such a tumour will be found to vary according as the circulation through its vessels is free; or as consolidation of these channels and the surrounding cellular web has taken place. In the former case the tumour, when pressed between the fingers, becomes flaccid and pale; and when the pressure is removed, the fulness and colour of the part gradually return. When a tumour of this kind is accidentally pricked, it bleeds freely, and indicates the nature of its contents. If, on the other hand, the tumour be of long standing and considerable size, and its vessels have become solidified, the part gives to the finger the sensation of a number of solid cords running in different directions through the mass. Neither the colour nor the volume can be materially diminished by pressure. The diagnosis of this peculiar modification of nævus will generally be assisted by the presence, in the neighbourhood, of erectile tissue in a less equivocal form.

In the *second class* we shall find the simple cellular and the adipose tumours, in either of which the malignant degenerescence may eventually take place. The early history of these cases is that of all similar formations. The cellular tumour is generally described as being like a "*soft wart*," and its enlargement is ascribed to injury or laceration from accident. The external appearance will be found to vary according to the locality, organization, and peculiar function of the spot from which it springs. There is a peculiar arrangement in some. The surface of the growth seems to be formed by a number of vegetations growing parallel to each other at right angles to the surface of the tumour. Each of these elevations presents, at its extremity, a cuticle thickened and hardened into a warty consistence, and with a brownish-gray colour, different from that of the remainder. Dr. O'Ferrall does not consider this appearance to be peculiar to productions of the dermoid tissues. The mucous membrane may give origin to warty growths exactly resembling what has been now described. The adipose tumour frequently becomes pendulous when circumstanced favorably. When large, and of long duration, it may present any of the morbid changes already alluded to. Dr. O'Ferrall has seen abscesses form in a pendulous adipose tumour; and he has removed pendulous fatty tumours of long standing, in which he has found distinct nodules of malignant deposit.

Thus, whether congenital or otherwise, some pendulous tumours become malignant, while others remain exempt from heterologous deposit to a late period of life.

Dr. O'Ferrall believes, however, that a pendulous tumour is rarely the seat of encephaloid or cancer at the period of its first formation. This is his present impression, and if future experience confirms the opinion, it will follow: *First, that all pendulous tumours should be removed at the earliest period at our disposal; and, secondly, that they can be done so with the fairest prospect of a permanent cure.*

The grounds for the opinion that pendulous tumours are never malignant at the period of their origin, are, first, that Dr. O'Ferrall has removed tumours of this kind, containing tubera of encephaloid; and which were suspended by a pedicle of thin healthy integument; and, secondly, that when encephaloid is

deposited in or under the integument, its further development or reproduction is always in a lateral direction, where it has most support, and it therefore does not become pendulous. If encephaloid accumulated in the forward rather than in the lateral direction, the cuticle must soon give way, and expose the fungus. The tumour would thus be prevented from remaining undetected sufficiently long for the formation of a stalk or pedicle, by the traction occasioned by its weight.

Treatment.—It has been shown that some of those tumours, after remaining stationary for years, become the seat of morbid action or morbid deposit. The best rule of practice is to remove them when first presented to our notice, unless some clear contraindication be present.

In its simplest form, the pendulous tumour seems to require merely the division of its pedicle by a knife-edged scissors or scalpel. If the section be made too near the bulb, an unsightly projection will remain after the operation; if it be done too near the other extremity of the pedicle, the integument, on retracting, will leave a wound, and consequently a scar much larger than could have been anticipated. Allowance, then, must be made for the elongation of the pedicle by the weight of the bulb, and for the contraction of the stalk, which always follows its division. The best mode of proceeding is to poise the tumour on the hand, and allow the surrounding skin to retract and recover its pristine position, and then to make the section of the pedicle a little below its origin. Should the nutritious artery be large enough to deserve attention, the jet of blood may be prevented by previously including the neck of the tumour in a provisional ligature, and, when the section is accomplished, tying the divided artery. The provisional ligature may then be removed altogether. A slight touch of the nitrate of silver, just sufficient to produce a delicate white coating, will not shorten the duration of the subsequent smarting, but lessen the probability of any reaction, especially of an unhealthy kind. It has appeared to Dr. O'Ferrall that whatever seals up the cellular tissue, or the orifices of divided vessels of every denomination, diminishes the tendency to diffuse troublesome inflammation. Simple water for dressing will then complete the local treatment.

In operating on the adipose pendulous tumour, the extent of interference with the pedicle will be regulated by the presence or absence of fatty matter in its substance. If the growth extend through the neck into the subcutaneous cellular membrane beyond it, such an incision must be made as will allow of its complete extraction. In such a case, the small cavity then left should be filled with lint dipped in olive oil, and the integument brought gently over it, to prevent an unnecessarily large cicatrix. The lint is withdrawn when suppuration is established, and the integuments brought together by adhesive plaster.

The proceeding in the case of pendulous *nævus* must be adapted to the peculiar circumstances of the case. It is not usual for the pedicle, in such instances, to be entirely free from all traces of erectile tissue. Should it be implicated, or the vessels of the cellular or dermoid tissues beyond it be hypertrophied, a simple section would be inadequate to the cure; hemorrhage of a troublesome nature would be the immediate result, and reproduction of the disease the more remote consequence of such an imperfect procedure. The diseased part must be included in an elliptical incision, and thus freely and completely removed.

It may happen that the erectile formation may extend irregularly for a considerable distance. In such cases, the amputation of the pedicle alone would entail the consequences already alluded to, while the excision of the whole of the morbid structure might be forbidden by its extent, or by the importance of the parts in which it is found. The following is the mode recommended under such circumstances, and when the removal of the tumour is desired. The tumour being held horizontally and on the stretch, the point of the style or nail cautery, described by Dr. Wilmot, should be passed through the cervix in several places, so as to ensure the obliteration of the vessels contained in that place. The whole cervix may be traversed by these punctures at one or several successive operations, according to its breadth. When the vascular character of the cervix is thus changed, its section may be performed without risk of hemorrhage. A series of seton threads would accomplish this object, but in a manner much more tedious and painful to

the patient. The mode of obliteration of erectile tissue employed by Dr. Wilmot is a great improvement on the previous practice in such cases. Its adaptation to pendulous tumours previous to their section will be found available, and Dr. O'Ferrall recommends it.

When a pendulous tumour is known or suspected to be malignant, great care must be taken to remove the entire of the morbid parts. If the heterologous structure be confined to the bulb of the tumour, and the pedicle or surrounding skin be healthy, there can be no reason for more than simple section of the former; but this should not, for obvious reasons, be made too near the bulb. But should the neck of the tumour be thickened, hardened, or irregular, a free elliptical incision should be made in the integument beyond it, and all suspicious parts satisfactorily removed.

9. INJURIES AND DISEASES OF THE HEAD AND NECK.—A work on this department of surgery, consisting of a selection from the 'Memoirs of the Royal Academy of Surgery of France,' was issued for the year 1847-8,* by the Sydenham Society. The volume contains the important memoirs of Quesnay and Louis on wounds of the brain, and the use of the trepan; that of Lassus on wounds of the superior longitudinal sinus; Louis on the fungous tumours of the dura mater; Ferrand on hernia of the brain; Bordenave's interesting and important 'Summary of Observations on the Diseases of the Maxillary Sinus;' the same author's memoir on certain exostoses of the lower jaw; Louis on bronchotomy; Martinière on perforation of the trachea; and Malle's cases of swelling of the tongue. Although this is merely a reproduction of some interesting works of the most eminent French surgeons of the middle of the last century, and can in no way be regarded as appertaining to the progress of surgery at the present period, yet many of these papers will be new to the exclusively English reader. The whole of them are eminently practical; and a knowledge of their contents is indispensable to every surgeon who wishes to acquaint himself with the histories of the subjects of which they treat. The reader will find, interspersed throughout the volume, many highly important practical precepts—too frequently lost sight of subsequently, and then reproduced as novelties—most forcibly illustrated and insisted upon. There is also appended to the work a list of additional memoirs on diseases and injuries of the head and neck, contained in the five quarto volumes of the French Academy, including diseases of the nose, eyes, and head, and papers on hare-lip, salivary fistula, and diseases of the interior of the mouth. The republication of these works, with the numerous cases which they contain, is calculated to promote the real advance of science, by preventing the insertion, in our periodicals, of similar cases as novelties, instead of merely additions to our statistics; and the repetition of remarks and reasonings, as new, which have been long since adopted from some of the greatest proficientes in surgery. The periodicals contain also the following suggestions belonging to this head:

10. *Improvement in the Operation of Hare-lip.*†—The plan appears to have been proposed by M. Phillips, of Liège, and lately adopted by M. Jobert, at St. Louis, in a case in which the palate was divided, and the nose deformed. It consists in raising each flap after refreshing its edges, and dissecting its base on each side with a bistoury from below upwards to the maxilla, thus detaching the *alæ nasi* from their deep connexions. This done, each side of the jaw and *alæ nasi* are drawn downwards and forwards, so as to set the nose completely free; and for the purpose of fixing it in its projecting and normal state, the base of the *alæ nasi* is slit with a long needle, placed transversely. Compresses are placed over the dissected cheeks, in order to facilitate their adhesion to the parts below, and to prevent the nostrils again becoming flattened. These are put on after the sutures are applied to the hare-lip, and after the transverse division of the nose, and are thus fixed with starch bandages. In this manner a perfectly well-formed nose may be made, detaching the cheeks and the *alæ nasi* from their adhesions to the maxilla, so as to fashion the nose and lips conveniently, without any visible cicatrix or external wound. The idea of dividing the base of the nose transversely with a

* Observations on Surgical Diseases of the Head and Neck. Translated and edited by Drewry Outley.

† *Annales des Thérapeutiques*, Feb. 1848.

long needle, so as to raise and *shape* the nose, appears to be a real improvement in the operation.

11. *Extirpation of the Velum Palati*.—A case is reported from one of the Italian hospitals of extirpation of the velum palati with the bistoury. It appears that M. Blandin was the first to perform the operation, with the ligature, at the Hôtel-Dieu, at Paris.* This surgeon laid it down as a principle, that it would be imprudent to resort to the knife, on account of the danger of wounding the palatine arteries, and of hemorrhage; but M. Mirrich records a case in which he employed the bistoury. The case was that of a man, in whom the velum was thickened and depressed, so as to cover the posterior wall of the pharynx; and behind it there were numerous excrescences, proceeding from the posterior part of the nasal fossæ. There was a vegetation, the size of a chestnut, on the posterior wall of the pharynx. The pillars of the fauces were degenerated, and covered the tonsils, also converted into encephaloid. The nostrils were impervious, the tongue pushed to the right, strabismus of the left eye, deglutition difficult, speech almost unintelligible, attacks of threatened suffocation. The operation was begun by ablation of the velum palati; it was seized on one side with Museaux's forceps, and drawn forwards, then penetrated at the centre of the base with a bistoury, and completely excised, first on one side, then on the other. The flow of blood was trivial; and the operation proceeded with the extirpation of the tumours of the pharynx, the pillars of the fauces, and, as much as possible, of the tonsils. There was now a good deal of bleeding, evidently from the interior of the tonsils. The actual cautery was applied, also compresses steeped in a concentrated solution of alum; but the bleeding was arrested with difficulty. The twelfth day after the operation the eschars were detached, but the whole of the diseased mass was not separated. The actual cautery was again applied; and three weeks afterwards the patient appeared to be quite cured, although it is probable that the disease may return. Existence, at all events, was considerably prolonged.

Another Italian surgeon, Dr. Medoro, has also treated successfully a cancerous affection of the velum palati. He extirpated it with the bistoury, and applied the actual cautery. These cases appear to show that the velum palati may be removed without danger from hemorrhage.†

12. *Extirpation of the Superior Maxilla*.—In the case of a young woman, æt. 23, Mr. Falloon extirpated the maxilla for a fibro-cartilaginous tumour in the anterior maxilla. The steps of the operation, which was completely successful, are accurately detailed in the work from which we quote. On making a section through the tumour, it was found to consist of a dense fibro-cartilaginous structure, with spiculæ of bone interspersed. Most of the original bone appeared to have been absorbed; and a case had been made for the tumour by the deposition of new bone.‡

13. *Carcinoma of the Œsophagus*.—A case, in which the tube opened into the aorta, is given by Professor Pfeufer, of Heidelberg. The disease of the Œsophagus progressed with the usual symptoms, until a catheter could not be made to penetrate into the stomach, and only the smallest quantity of liquid could be swallowed. The morning after the last attempt to pass the catheter, which produced violent pain, the patient threw up about three pounds of frothy arterial blood; the hemorrhage returned in the evening, and death took place. On examination, a carcinomatous ulcer was found in the Œsophagus, about the size of a five-franc piece, nearly on a level with the bifurcation of the trachea, communicating with the aorta by an opening, with irregular edges, an inch and a half in diameter, and with the trachea by an opening half the size.§

14. *Salivary Calculus*.—M. J. Antonio de Boy records a case which traversed the centre of the base of the tongue transversely. It was eighteen lines long, and from four to eight or nine wide.||

15. *Tracheotomy*.—A very interesting case of laryngitis in a phthisical patient, in which this operation was performed with success, although the patient died six weeks afterwards, will be found related by Dr. Barker in the volume just

* Annales des Therapeutiques, vol. ii, p. 280; vol. iv, p. 108.

† Lib. cit. March 1848, p. 464.

‡ Zeitschrift für Rationelle Medicin.

§ Dublin Quarterly Review, Nov. 1847, p. 491.

|| Encyclographie, June 1848, from the Gaceta Medica.

issued by the Medico-Chirurgical Society of London.* Profuse hemorrhage occurred; and the patient was twice nearly suffocated by the entrance of blood into the trachea. In Louis's memoirs, in the work to which we have referred at the commencement of this section, the case will be found of a soldier who was nearly suffocated after bronchotomy, by the escape of blood into the trachea; and a suggestion occurs that the effects of the accident may be obviated by making the patient lean forward, with his head supported over the side of the bed, and his face to the ground.† Position, certainly, ought not to be lost sight of under such circumstances.

16. INJURIES AND DISEASES OF THE ABDOMEN.—Several occasions have presented themselves in the course of the publication of these volumes, to show that the opinions and practice of surgeons are undergoing considerable modification as respects the difficulties and dangers of the section of the peritoneal cavity. Mr. Hancock has recently forwarded us—

"*A Short account of a case of Disease of the Appendix Cæci cured by Operation,*"‡ in which, as far as a single case goes, the views of the more modern and bolder surgeons are confirmed by a new mode of treatment, adopted successfully. Mr. Hancock appears to entertain a very strong opinion on the subject, and trusts that the time will come when incisions into the abdomen will be successfully employed in cases of *peritonitis* terminating in effusion, which usually end fatally; those cases where the patient sinks and dies, and upon examination a quantity of offensive, turbid, serous flocculent effusion is found in the abdominal cavity. In many such, whether puerperal or otherwise, the post-mortem appearances are totally inadequate to account for death. On one essential point, Mr. Hancock's pathological doctrines are in accordance with those which we have had occasion to refer to in a former page, as propounded by M. Velpeau, and entertained by some of the most eminent men of the present day; it is the stagnation and the decomposition of the effusion, which, by poisoning the economy, is the cause of the typhoid symptoms and the fatal result, and the fluid destroys by its character rather than by its quantity. The operation proposed is an *incision*, carefully made, extending for an inch and a half or two inches, from the anterior superior spine of the ilium inwards above, and as close as possible to Poupart's ligament, so that the effusion may drain away. The trocar should on no account be employed; for, setting aside the existence of adhesion, there is never sufficient space between the intestines and parietal peritoneum to prevent the risk of wounding the former with such an instrument; but by dissecting carefully down, the surgeon may open the abdomen with comparative safety to the patient.

In Mr. Hancock's case there were symptoms of peritonitis, and of some mischief about the cæcum or its appendix; treatment had been of no avail, and the patient, a female, was evidently sinking. She was put under chloroform, and an incision, about four inches long, made inwards from the spine of the ilium above Poupart's ligament, but as close to it as possible. Upon opening into the abdomen, a quantity of excessively offensive, turbid serum, with fibrinous flocculi, poured out, mixed with air-globules, and also patches of false membrane. She was directed to be turned on her side, that the discharge might freely escape, and a poultice to be applied. The treatment consisted in opiate draughts and enemata, with occasional small doses of calomel, plenty of nourishment and stimulants; and she went on favorably during thirteen or fourteen days, when two small balls of fecal matter, surrounded with calcareous deposit, were found in the wound, which balls, from their size, Mr. Hancock imagined to have escaped by ulceration from the appendix vermiformis. From this time she was treated with quinine and opiates, and continued gradually to improve. At the expiration of three weeks from the discharge of the fecal substances, the wound was entirely healed, and she left London a few days afterwards.

17. *Intestinal Obstructions.*—An important paper has been drawn up upon this subject by Mr. Benjamin Phillips,§ who has collected the histories of 169 cases

* Transactions, vol. xxi. 1846, p. 51.

† Lib. cit. p. 246.

‡ Read before the Medical Society of London, Sept. 25, 1843.

§ Mr. Phillips on Intestinal Obstructions, Med. Chir. Trans., vol. xxi, p. 34.

of intestinal obstruction from internal causes. The whole paper is worthy of a careful perusal; but we can only find space for the author's conclusions:

1st. That intestinal obstructions, dependant upon causes acting within the abdominal cavity, are by no means of rare occurrence.

2d. That they may occur at any period of life, and that although a particular variety of obstruction may be more frequently seen than another, at a particular period of life, there are still so many exceptions to the rule that we cannot rely much upon the probability that a particular obstruction is present at a given period of life.

3d. That the diagnosis of the existence of an obstruction is usually not difficult.

4th. That the diagnosis of the nature and the seat of the obstruction is, in most cases most uncertain and unsatisfactory.

5th. That, beyond the general history of the case, the most probable means of ascertaining the seat of the obstacle is, to follow carefully the distended intestine up to the point of obstruction.

6th. That under ordinary treatment, these cases are fatal in the proportion of, probably, seven out of nine.

7th. That although no reliance can be placed on purgatives, on mercury, on opium, or any variety of injection, and that although, in many cases, they seem to aggravate the suffering, yet, as it is unquestionable that, in some cases, they have been administered with relief, we cannot advise that they should be discarded, but we doubt the prudence of continuing to use them beyond two or three days.

8th. That the interference by surgical operation is justifiable, when three or four days have passed without any relief from ordinary means (provided the constipation be complete, and vomiting of fecal matter continue), because it affords a greater chance for the preservation of life than ordinary means.

9th. That if the indications as to the seat of the obstruction be sufficient to satisfy the surgeon, it is at or near that point that the incision should be made, but if there be much doubt, it is most prudent to make the incision on the median line.

10th. That if it be found impracticable to remove the cause of the obstruction, or imprudent to make any extended search for it, relief may be obtained by forming an artificial anus at as near as may be prudent to the seat of the obstruction; and that if it be, as it frequently is, near the termination of the ileum, an incision on the median line admits of its accomplishment as near as may be to the termination of that intestine.

18. Dr. E. Alonzo has described a case of *internal strangulation* produced by displacement of the spleen and pancreas. A woman was seized, without any manifest cause, after an operation for fistula, with pains in the abdomen, bilious vomiting, intense thirst, red and dry tongue, scanty urine, rapid contracted pulse, and constipation. Under the influence of energetic treatment these symptoms subsided in four days, but they returned in a more severe form six days afterwards; meteorismus set in, nooses of intestine could be perceived through the abdominal parietes, and a hard tumour, about three inches in diameter, was found in the right iliac region; in the eight days from the relapse, stercoraceous vomiting set in, and forty-eight hours afterwards the patient sank. On post-mortem examination, the peritoneum was found inflamed and dilated, loops of intestine adhered to each other, and to the intestinal walls. There was a tumour in the right iliac fossa, covered by omentum; on cutting through the latter, a cavity was penetrated containing fluid blood; an hypertrophied and softened spleen adhered to the parietes of this cavity, for which a kind of cyst had been formed by the omentum anteriorly and behind, and laterally by the great intestine, the convolutions adhering together, and to the spleen. The spleen, adhering firmly to the end of the pancreas, dragged upon this viscus, which had taken a vertical position, and passing anteriorly to the transverse colon, compressed and strangulated this intestine.*

19. *Hernia*.—Mr. Allan, of Epsom, records two cases, in one of which gradual reduction took place spontaneously, long after all attempts to produce it had been abandoned as impracticable; and in the other, not only reduction, but a permanent radical cure was obtained. In the latter, which was a very remarkable case, it was probable that the inflammation, occasioned by a truss, had extended to the subcutaneous tissues, and obliterated the inguinal ring, the bronchial sac becoming gradually absorbed; symptoms of strangulation had not occurred in either case.†

* Archivo de la Medicina Espanola y extranera.

† Prov. Med. and Sur. Journal, Sept. 20, 1848, p. 512.

20. *Hermiotomy*.—Dr. Pirrie's communication on '*The Modes of Proceeding in regard to the Hernial Sac in the Operation for Strangulated Hernia*,'* contains a statement of the various reasons for and against the *intra-peritoneal* and the *extra-peritoneal* modes of division. We have extracted from this paper four cases, in which the stricture was produced by a band of lymph effused from the serous coat of intestine, and surrounded it and constricted it as by a ligature, (Ext. art. 39, p. 84.) In such cases, and in others, where the stricture is formed by the sac, or within it, the extra-peritoneal mode is quite unsuitable, and great caution is necessary before the surgeon decides upon adopting this method, lest this should be the seat of the stricture; just as great caution is also necessary when the sac has been opened, to ascertain whether membranous bands do or do not exist. After admitting, as a general principle, that in cases where the stricture is external to the sac, the extra-peritoneal division is decidedly preferable, as being attended with much less danger, Dr. Pirrie gives a detail of the exceptional cases. Scarpa, Pelletan, Cloquet, Hesselbock, and Lawrence are quoted on the subject of adhesions and the various obstacles to reduction. It is shown that, under several conditions, if the sac be not opened, reduction is impossible; that if the sac be opened, two of these, at least, may be overcome—first, recent soft adhesions, formed by coagulable lymph; and, second, filamentous adhesions—which can be either broken down by the finger, or divided by the knife. Other cases present an insuperable impediment to reduction, as natural adhesions taking place within the abdomen before the hernia protrudes, and close, organized adhesions of great extent, where the hernia is large; in these latter cases, Sir A. Cooper's practice of dividing the stricture, which is, for the most part, external to the sac, and leaving the latter unopened and the hernia unreduced, is the best practice. The whole history of hermiotomy, as epitomised in this paper, tends to the conclusion that, as respects the mode of proceeding on opening the sac, "to follow one method indiscriminately in all cases would be unwise," and that intra- and extra-peritoneal division should be resorted to, according to the particular circumstances of the case; that, in a majority of cases, the former is not only the more suitable mode, but the only one which is safe, or by which any good can be effected, and that the cases in which the latter is suitable, are those of very short standing, when there is no reason to apprehend the existence of adhesions, or of an unsound condition of the hernia, and cases of large and old hernia, where the more judicious proceeding is to divide the stricture, and not to attempt reduction. A recapitulation of the history of the opinions respecting the plan of not opening the sac is given, including the names of Franco, Paré, Petit, Garengot, Bonnet of Lyons, Monro Secundus, Sir A. Cooper, Mr. Lawrence, Mr. Key, Mr. Luke, and Mr. Liston, from which it appears that this mode is meeting with deservedly increased favour; and Dr. Pirrie remarks, that he has no doubt that it will continue to do so, if practised under the prescribed limitations. Dr. Pirrie, with all judicious surgeons of the present day, attaches the greatest importance to the operation for hernia being performed early; his decided impression is, that the reason why it is so frequently followed by death, instead of being one of the most successful of the great operations of surgery, is "*too great delay in resorting to an operation, and the undue and injurious use of the taxis*."

—Dr. James Duncan, of the Royal Infirmary, Edinburgh, has also furnished a communication in favour of dividing the stricture external to the sac, illustrated by cases. Dr. Duncan remarks, in reference to the existence of the stricture at the neck of the sac, this circumstance cannot be ascertained before the operation, and when it is found there, on operating, the sac may then be opened, and the process completed in the ordinary way, the patient being none the worse for the attempt; for when the stricture is in the sac it is impossible to perform the operation of extra-peritoneal incision. Dr. Duncan admits the most serious objection to be the danger of returning the bowel, or omentum, in a state of gangrene; and that whenever there is reason to suspect this, it is the clear duty of the surgeon to proceed in the ordinary way.†

—Mr. Luke has recently published a most interesting and important paper on the same subject, in which the bearings of the question are further elucidated;

* Monthly Journal, May, 1848.

† Ib. March, 1848, p. 633.

some of the most forcible objections which have been made to Petit's operation are materially qualified, and the considerations and statistics embraced by the paper are favourable to the general adoption of the operation without opening the sac.*

21. **INJURIES AND DISEASES OF THE URINO-GENITAL SYSTEM.**—*Strictures of the Urethra.*—An article on the formation of organic stricture in the male urethra, with some remarks on their consequences and treatment, will be found in the Dublin Quarterly,† by Dr. Wilmot. This gentleman states that, in gleet discharges, occurring in the early stage of stricture, he never thinks of prescribing medicine with the expectation of curing the discharge; he passes a plaster bougie, and in general finds a sensitive part, at or near which spot a soft obstruction can be frequently felt, which appears little, if any, impediment to the passage of the instrument; by continuing the use of the bougie every second or third day for some time, the morbid sensibility of the part will be removed, the gleet discharge will cease, and the pulpy obstruction, and all the other thickening will disappear, leaving the urethra free; in such cases it is necessary to pass the bougie for some time after all the symptoms have declined. To prevent relapse in strictures, for all are liable to return after a time, the occasional application of instruments is absolutely necessary for a long while. Dr. Wilmot has found, in his own practice, use for almost all the instruments which have from time to time been invented for the removal of strictures. The plaster bougie is a great favorite with him; it is applicable in recent stricture, and he has succeeded with it in those which are seated either at or behind the bulb. The gum-elastic catheter, the catgut bougie, and the metallic catheter and sound have all their special uses, which are in part explained and illustrated in this paper by plates. In cases of stricture, in which there is a predisposition to rigor, Dr. Wilmot advocates resort to a large dose of opium before the instrument is used. This gentleman states, also, that he has effected some cures of impassable strictures by a tolerably large gum-elastic catheter, or bougie, pressed against the stricture for fifteen or twenty minutes every second day. Dr. Wilmot also urges the necessity of hygienic treatment during the local treatment of strictures.

We have introduced some remarks by Mr. Vincent on the treatment of the irritable stricture of the urethra. (Ext. art. 61, p. 130.)

22. *Catheterism.*—Mr. W. N. Sproag suggests the use of a common syringe to obviate the clogging of the aperture of a catheter during its introduction into the bladder; the pipe to be introduced into the orifice, and the blood to be drawn into the cylinder of the catheter by working the piston briskly, upon which the urine will flow.‡

23. *Vesico-vaginal Fistula.*—A case is recorded in which the bladder protruded into the vagina, and was mistaken by a medical practitioner for a prolapsus uteri. A pessary was actually forced through the vagina into the bladder, and remained there five months, producing the most violent symptoms; it was ultimately extracted, with the greatest difficulty, through the fistula.† Had the practitioner taken care, on the reduction of the tumour, to explore the neck of the uterus, he would not have committed this error of diagnosis, and many of the poor woman's sufferings would have been prevented.

24. *Urinary Calculus.*—Mr. Bullen extracted from a girl, æt. 14, a calculus comprised of oxalate of lime, with a nucleus of uric acid; the calculus was the size of a swan's egg, measuring around its largest circumference eight inches and a half, and weighing seven ounces. The mass was broken into many pieces, but with some little difficulty; the whole of the fragments were extracted, and the patient appeared to be doing well.||

Mr. Bullen inquires if there be a similar case on record in one so young; he is inclined to consider it unique in the annals of surgery. When we read of a stone weighing 32 ounces,¶ another weighing 2 lbs. 3 oz. 6 dr.,** another 3 lbs. 3 oz., extracted after death,†† and another, removed from the body of a woman at Norwich, almost as large as a new-born child's head,‡‡ there is certainly

* Medico-Chirur. Trans., vol. xxxi., p. 101.

† May 1, 1848, p. 297, et passim.

‡ Lancet, June 9, 1848.

§ Annales des Thérapeutiques, Feb. 1848, p. 425.

¶ Prov. Med. and Surg. Journal, May 1848.

‡ Philosophical Trans., vol. xi. p. 843.

** Idem, vol. xv. p. 1015.

†† Id. vol. xix. p. 310.

‡‡ Id. vol. ii. p. 403.

nothing remarkable in the size. From the ages of some of the individuals in whose bladders such enormous calculi have been met with, there can be no room to doubt that at the age of 14, they must have been as large as the one described by Mr. Bullen, but we have no note before us of a calculus having been *extracted* so large as that in one so young.

25. *INJURIES AND DISEASES OF THE BONES AND LEGAMENTS.*—The surgical reader will find the following articles, and the extracts to which they refer, replete with interest:—*Excision of the Head of the Femur.* Our extracts contain a valuable paper (62, p. 131) upon this subject, by Mr. H. Smith. The operation was first proposed by Mr. Charles White, and first performed in this country by Mr. Anthony White. Mr. Fergusson recalled the attention of the profession to it more recently by resorting to it in the case described in the extract referred to. Mr. Smith urges very strong arguments in its favour; he considers it an operation fraught with the greatest benefit to suffering humanity, and calculated to elevate the "science" of surgery. At the same time, he admits that it is one requiring great care in the selection of cases, and by no means to be resorted to indiscriminately. Mr. Smith's essay has called forth 'Remarks on the Operation for Excising part of the Hip-joint in Scrofulous Caries of the Articulation,' from Mr. H. B. Norman.* The latter gentleman states truly, that there is no great difficulty nor danger in the performance of these operations, but that great caution is necessary. He considers that there are circumstances at the present moment which render it peculiarly incumbent upon surgeons not to be hurried away too rapidly after "novelties or revived antiquities," alluding, we presume, to the facilities afforded for operation by the discovery of the agency of chloroform. Mr. Norman urges on our consideration the constitutional character of the disease, which may be regarded as a local manifestation of scrofulous cachexia. He considers the frequent coincidence of these local affections with visceral disease as the most serious objection to the proposed operation. It would be a poor satisfaction, he remarks, after excising the head of the femur, and scraping away at a carious acetabulum, to see our patient dying of phthisis; the reply to which objection will unquestionably be, that physical diagnosis will not permit a surgeon of the present day to commit the oversights and errors of the past. Another serious objection, in Mr. Norman's mind, is the frequent impossibility of forming even a rational opinion of the extent of the disease; the acetabulum may be destroyed, and the cavity of the joint may communicate with large pelvic and lumbar abscesses. Nevertheless, Mr. Norman does not object to the operation in well-selected cases.

Mr. Fergusson operates by a straight incision on the outside of the thigh, and this is the only mode referred to in the above papers. Chelius describes three methods: 1st. A simple longitudinal incision. 2d. The formation of a flap, which has been resorted to by Percy and Roux. 3d. Textor's oval cut.† The latter consists in an incision beginning two inches above the great trochanter, carried obliquely backwards and outwards, and ending about an inch before the little trochanter; to this follows a second incision, beginning on the front of the thigh opposite the point where the former ended, carried obliquely outwards and upwards, and meeting it at rather an acute angle above the great trochanter.

26. *Excision of the Trochanter and Neck of the Femur.*—In Mr. Smith's essay, just referred to, we are also informed that within the last few weeks‡ an operation upon the hip, of an interesting character, has been performed by Mr. Fergusson, in King's College Hospital. The patient was a young woman, æt. 20, who had for sixteen years suffered from disease of the hip-joint. She had been under Mr. Fergusson's care for a few months. The symptoms indicated that disease of an incurable nature existed, and that, too, in the upper part of the femur alone. There had been an abscess of some duration, and a sinus led up towards the hip. The signs also were such as led the surgeon to suppose that dislocation had taken place. Mr. Fergusson, therefore, determined to cut down upon and remove the diseased portion of bone; in fact, his intention was to perform his operation of excision of the head of the femur. On making the inci-

* Lancet, July 8, 1848. † *System of Surgery*, vol. ii. p. 977. ‡ Lancet, April 15, 1848.

sion, however, for this purpose, that gentleman discovered that he had been mistaken in his opinion about dislocation; none existed, but the head of the femur was firmly ankylosed to the acetabulum. He, however, found the source of the mischief in the neck of the bone; he, therefore, sawed through below the trochanter, and through the neck, taking the intermediate diseased parts away. The upper and back portion of the neck was perforated by a round hole, through which was seen a portion of bone, nearly loose, in a necrosed condition; the disease slightly encroached upon the trochanter.

Thus this operation, strictly speaking, was excision of the trochanter and neck of the femur. It may be likened to a proceeding which has been put in force by Barton, of Philadelphia; and more lately by M. Maisonneuve, at the Bicêtre. (*Medico-Chirurgical Journal of Paris*, Jan. 1848.) In both these the femur was divided, in consequence of ankylosis, and the patients were much benefited. Mr. Ferguson did this, and also removed dead bone.

The patient was attacked with erysipelas in the wound; it extended over the hip and extremity, and, unfortunately, destroyed her sixteen days after the operation. At the post-mortem examination it was found that there was extensive suppuration in the cellular tissue in almost every part of the thigh, leg, and foot; the wound and extremity of the bone were in a condition similar to that in which the parts are found in a stump, when death occurs within the first twelve or eighteen days. There was no disease in the pelvis. Mr. Ferguson removed the great trochanter some time ago, in the case of a woman who had suffered severely from disease about the hip. All the symptoms indicated that the joint itself was sound, but that the trochanter was in a carious condition. He, therefore, made an incision over that process, and removed it. This case turned out very successfully.

27. *Ankylosis*.—In an article '*On the separate and combined Effects of the Cold Douche, and gradually increased motion, in the treatment of Incomplete Ankylosis*.' Dr. L. Fleury arrives at the following conclusions. 1. In certain cases of incomplete ankylosis, in which forced motion is useless or hurtful, cold excitant douches are to be preferred to all other therapeutic agents, producing a very favourable effect, by rendering the capillary circulation and organic absorption more active, modifying the vitality of the tissues, and thus restoring the extra- and intra-articular parts to their physiological conditions. 2. In cases of incomplete ankylosis, which imperiously demand the application of active motion, but in which this is impracticable, owing to the pains, articular irritation, and symptoms of general reaction which it provokes, cold sedative douches occasion these symptoms to subside, and allow the surgeon to have recourse to graduated motion better and sooner than any other known therapeutic agent. 3. In cases of incomplete ankylosis, demanding the application of forced motions, and where these are practicable, the cure is always quicker, and sometimes more complete, by associating the action of cold excitant douches with that of graduated motion.

The paper contains four cases illustrative of the author's principles. The first was a case of incomplete ankylosis of the shoulder-joint "of the first degree," from rheumatism. This was cured in two months, simply by a cold douche twice daily for about five minutes, consisting of a general shower-bath, and a local energetic douche, three centimetres in diameter, directed on the shoulder-joint. The second was a case of enlarged and stiff knee, the result of rheumatism; it presented the appearance of a white swelling, the limb being emaciated above and below the joint, which was flexed at an angle of about 140°; the condyles of the femur were enlarged. A cure of this case was obtained in about eight weeks, by the use of the douche twice a day for ten minutes. The third was a case of partial ankylosis of the shoulder-joint, from an injury, which Professor Roux had pronounced an old ankylosis, that would probably continue for life. There was atrophy of the deltoid, and scarcely any motion in the joint. Douches, with forced motion of the joint gradually increased, produced a cure in ten weeks; the deltoid had recovered its volume and contractility, and the limb was capable of all the necessary movements. Shower-

baths, as well as the local douches, were continually employed in this case. The case is given as illustrative, in the first place, of the utility of the sedative effects of cold water in allaying irritation and pain; and, secondly, of the excitant effects of the same element applied as a douche, by which it becomes a powerful adjuvant of the motor powers, modifying the vitality of the muscular and fibrous tissues. In the fourth case, which we have condensed and introduced into our extracts (art. 63), the efficacy of the treatment is illustrated still more remarkably.

28. *The Treatment of Ununited Fractures.*—We have recently placed before our readers several new proposals for the management of these cases.* Dr. Miller has suggested that the principle of "subcutaneous incision" may be made available,† and he quotes from Andral as follows:—That a strong needle, having been passed obliquely down to the part, should have its edge freely moved about in all directions, so as to cut up the ligamentous bond of union, as well as the dense investment of the ends of the bones, the needle being then carefully withdrawn, and the puncture covered by isinglass plaster. The parts will probably be reduced to a state very similar to what attends an ordinary fracture. At the first, a pouch of blood will form; the blood will be absorbed; fibrin will take its place; inflammation being absent, the plasma will be organized, and probably form an excellent imitation of the ordinary provisional callus; while, at the same time, secretion and organization may advance from the ends of the bone; and consolidation, as by definitive callus, be completed.

The connecting materials of the "false joint" are disrupted and excited, not destroyed. They are valuable towards the formation of bone, when brought into and maintained in a state of moderate vascular excitement. A state of active hyperæmia generally precedes the osseous transformation of the fibrous, cartilaginous, and fibro-cartilaginous tissues. M. Rayer observed that, when he excited an artificial irritation in the fibro-cartilage of a rabbit's ear, the part was at first softened; a yellow matter was next deposited in its texture; and finally, a calcareous deposit was formed, and a true ossification produced. M. Cruveilhier likewise observed different portions of periosteum, ligaments, and cartilages pass into the osseous or osseiform state, under the influence of different stimulating applications.‡

—Five cases of ununited fracture, treated successfully by Mr. W. B. Page, according to different methods, were detailed to the Medico-Chirurgical Society of London in March last.‡ Mr. Page remarks that in no class of cases is a correct appreciation of the causes of the malady of more importance than in these. The non-union may depend upon a purely local or a general cause, and the treatment must be varied accordingly.

While the present sheet was in the press, we received a specimen of *Plates on Surgical Anatomy*, by Mr. MacLise; we beg to call the reader's attention to them, not less for their fidelity than for a lowness of price (6s. per number) which brings the work within the means, we trust, of the majority of the profession.

* Half-Yearly Abstract, Vol. VII. p. 104; idem. p. 268.

† Monthly Journal, June 1848, p. 843. ‡ Archives Générales, Avril 1848, p. 480.

§ Transactions, vol. xxxi. p. 135.

III.

REPORT ON THE PROGRESS OF MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

BY THE EDITOR.

AMONG the works recently published in connexion with the subject of the present Report, we have to notice a volume, entitled 'Females and their Diseases,' by Dr. Meigs, of Philadelphia; a third edition of Dr. Ashwell's 'Practical Treatise on the Diseases of Females;' a second edition of Dr. Lee's 'Clinical Midwifery;' and a second edition of Dr. Rigby's 'Memoranda for Young Practitioners in Midwifery.'

—The work of Dr. Meigs, which purports to be a series of familiar letters to his pupils, is destitute of any regular arrangement which would entitle it to be regarded as a treatise on the diseases of females, but is made up of clinical remarks on some of the more frequent or more important of those diseases selected from the vast field of female pathology. As regards style, it is not in our power to say much in commendation; there is a mixture of gossiping colloquiality with pedantic verbiage, which is ill suited to the composition of a scientific work. Setting aside these faults, however, we are bound to state that every chapter is replete with practical instruction, and bears the impress of being the composition of an acute and experienced mind. There is a terseness, and at the same time an accuracy, in his description of symptoms, and in the rules for diagnosis, which cannot fail to recommend the volume to the attention of the reader.

The work consists of forty-four letters, of the most important of which we shall proceed to give a brief account. In the third letter, the author enters upon the discussion of the peculiarities of the sex, asserting that, as the ovary is the great characteristic organ of the female, and as the active tissue of the ovary is that which Von Baer calls the stroma, that therefore *stroma is sex*. He then gives a minute anatomical description of the ovum and its constituent parts, which differs but little from the views entertained by Bischoff, Valentin, and others, a full account of which will be found in our former Reports on Anatomy and Physiology. After, in a subsequent letter, pronouncing a highflown but well-deserved eulogium on the female sex, he proceeds, in Letter 5, to an account of their diseases.

The first subject noticed is relaxed symphysis pubis, which he regards as a strictly pathological state, in opposition to the opinion of Moreau. The cure is rest. He also here introduces incidentally the value of setons of the mons veneris in affections of the bladder. The subjects next mentioned are oedema, rupture, warts, &c., of the labia, and cohesion of the nymphæ, none of which require special mention.

In subsequent letters the author discourses upon the diseases of the vagina. In speaking of narrowing and obliteration of this canal, he alludes, as a frequent cause, to a species of ulceration which is apt to supervene upon childbirth, and which is extensive, and seldom heals without inducing great contraction. He describes a case, the cicatrization of which reduced the upper part of the vagina to the dimensions of a crow-quill. Under the head of diseases of the clitoris, the author alludes to a very remarkable case, also published in Dr. Ashwell's second edition, in which this organ arrived at an enormous size, and consisted of cysts containing fluid resembling tar.

The author's remarks on displacements of the womb are chiefly confined to prolapsus, retro- and ante-version, and inversion. Retroflexion is dismissed in a few words. He has met with one specimen of flexion of the junction of the fundus with the cervix, but with several in which the flexion occurred in the

cervix itself. He does not admit of any general signs leading to its diagnosis, and makes no allusion to the uterine sound of Dr. Simpson.

The remainder of the diseases of the womb noticed by the author are poly-pus, in Letters 19 and 20, cancer of the womb, physometra, and hydatids. Cancer, Dr. Meigs believes to originate in chronic inflammation. His suggestions for its relief are valuable, but not otherwise than usual. He speaks favorably of the actual cautery, so much employed by M. Jobert. There are many cases of hard and hypertrophied os and cervix which are mistaken for cancerous deposit: his treatment of them is bleeding, rest, nitrate of silver locally, and the bichloride of mercury in sarsaparilla, which is also much relied upon by Dr. Oldham.

The existence of physometra as a disease is denied; but the presence of air in the uterine cavity is, in accordance with general experience, admitted. Much the same opinion is expressed by Dr. Ashwell (p. 523). The latter regards the presence of air as produced by decomposition of the retained secretions, placenta, &c. Dr. Meigs believes that the uterus is often filled with air by suction, a vacuum being formed as the womb dilates, and rises into the abdomen after its contraction, subsequent to the expulsion of the child.

The remainder of the volume is taken up with the diseases of the ovaries, menstruation, hysteria, and the diseases of pregnancy, puerperal fever, phlegmasia dolens, puerperal convulsions, &c. The author's remarks on these subjects, where worthy of mention, will be given in a future section of this Report.

—Of the 'Practical Treatise on the Diseases of Females,' by Dr. Ashwell, the profession has long since pronounced its opinion, and that it is a favorable one is sufficiently evident from the fact that a third edition has been called for. Without enumerating the specific subjects on which additions and improvements have been made subsequent to the last publication, we may state, in general terms, that great pains appear to have been taken to embrace everything in the progress of the department to which the work belongs that can be made available at the bedside. We shall notice some of these subjects more in detail as we proceed.

—Dr. Lee's useful text-book, 'Clinical Midwifery,' has reached a second edition. No alteration appears to have been made in its arrangement beyond the introduction of the reports of 145 additional cases of difficult pretermatural and complicated labours.

—Dr. Rigby's 'Memoranda' are, as might be expected from its author's reputation, sound and good, and may occasionally prove of service; but we consider that the man whose memory is in so feeble a condition as to require this condensed nutriment has no business to be at the bedside of a parturient female.

§ I.—*Anæsthesia in Midwifery.*

1. *Religious Objections.*—Since our last Report, Dr. Protheroe Smith* and Mr. Bainbrigget have each published a pamphlet, pointing out the absurdity of the objections made to the use of chloroform in midwifery, upon religious grounds. As far as their main arguments are concerned, both these writers rely upon the philological interpretation of the word erroneously translated "sorrow;" but as they add nothing on this point to the information so learnedly adduced in Professor Simpson's pamphlet, previously noticed (see Half-Yearly Abstract, Vol. VII, p. 252), we do not feel ourselves called upon to enlarge upon the subject in the present Report. Both pamphlets are written in a tone of religious feeling, for which an unthinking public are not apt to give our profession credit, and will, doubtless, each assist to complete the demolition of these untenable prejudices, so ably commenced by Dr. Simpson.

2. *General Objections.*—In a pamphlet entitled 'Arguments against the indiscriminate use of Chloroform in Midwifery,' Dr. William Merriman has endeavoured to inculcate a more moderate confidence in the utility of that agent than is entertained by many. Although we believe that too much caution cannot be

* Scriptural Authority for the Mitigation of the Pains of Labour. London, 1848, p. 52.

† Remarks on Chloroform in Alleviating Human Suffering. London, 1848, p. 40.

displayed in the use of an agent of such power, we nevertheless feel constrained to state that Dr. Merriman has not, in our belief, made out a strong case for its less frequent employment in midwifery.

The best answer, however, to the objection to chloroform of all denominations, is to be found in a recent 'Report on the Progress of Anæsthetic Midwifery,' by Professor Simpson,* of which we now proceed to give an analysis. In this important memoir, the author gives, first, a brief introduction of anæsthesia in midwifery, first as it was induced by ether, and subsequently by chloroform. He then lays before us the following record of the

3. *Results of Anæsthesia in Midwifery.*—Up to the present time Dr. Simpson has, in his own practice, delivered 150 patients in a state of anæsthesia, with the following results:

To children.—All the children were born alive except one, which was expelled dead and decomposed, prematurely. Subsequently one other died, with symptoms of cyanosis. Of the remainder, not one has, up to this time (October), shown symptoms of any of the cerebral affections which were rather too freely prognosticated.

To mothers.—In all cases the physical sufferings attendant upon the latter stages have been alleviated or abolished. With one exception, since he has used chloroform, none of the patients have been aware of the last throes. With either the results were not always so satisfactory. In addition to this direct advantage, that of relieving the anxiety caused by anticipated suffering, with its consequent depressing effects, has been often observed. In most cases the mothers, on waking from the anæsthetic sleep, have expressed surprise at their feelings of strength, contrasted with their former experience; and in Dr. Simpson's experience, by annulling the parturient shock, the chances of secondary vascular excitements have been diminished. His firm conviction is, that, since he has employed chloroform, he has seen more rapid recoveries, and fewer puerperal complications. Two patients died of puerperal fever, but this happened during an epidemic, which also destroyed numbers who had not been under anæsthetic influence.

In addition to the 150 cases which occurred in Dr. Simpson's own practice, he has witnessed a large number in hospital and consultation practice, as well as in various obstetrical operations, as turning, craniotomy, and the forceps. In all such, the superinduction of anæsthesia has appeared to him of positive benefit; for not only is the mother passive and motionless, but the dilatation of the passages is more facile, and the extraction of the fœtus consequently more readily accomplished.

In confirmation of his opinions as to the safety and value of chloroform in midwifery, Dr. Simpson has been at the pains of collecting testimony from various sources.

Thus, in the Maternity Hospital of Edinburgh, according to the report of Drs. Duncan and Norris, 95 women have been delivered under its influence, of which 88 were natural, and 7 morbid labours. In the 88 cases, one only died, convulsions coming on after delivery, and proving fatal after six days; she was the subject of fatty kidney. There were 5 still-born children, 2 of which were premature; the proportion being thus 1 in 17. In the Dublin Hospital, the proportion is 1 in 15. Of the 7 morbid labours, there were 1, short forceps—child dead, mother recovered; 2, long forceps—1 mother dead from sloughing of the passages, both children living; 4 cases of turning—1 dead from ruptured uterus, the others did well; 3 children still-born. The authors of the report further state that "they can confidently say that the recoveries have been more perfect and speedy than before. They have noticed an entire absence of languor, fatigue, and shivering. . . . Further, there has been, since the introduction of chloroform, fewer than formerly of rigors, ephemeral fevers, &c.

—In the Westminster Lying-in Hospital, chloroform has been used by Dr. Haartman in twenty-five cases, mostly primiparæ. This gentleman found that, under the full effect of chloroform, the uterine contraction became less frequent, but became more so, though shortened in duration, as the effect passed off. He

* Monthly Journal, Oct. 1848.

has never known the pains entirely to cease; the relaxation of the passages was not evident. The patients were generally entirely unconscious; but some knew what was going on, without feeling pain. The mothers all recovered speedily, with the exception of one, who, eight days after delivery, had symptoms of paralysis, which subsided in about a month. This writer did not observe any particular effect of the chloroform upon the children.

From private practitioners Dr. Simpson has received a large mass of favorable evidence.

Dr. Keith has used chloroform in twenty-four cases, keeping the patients under its influence from half an hour to eight hours. He states positively that he has seen "no serious symptoms which could be traced to chloroform, either in the mother or child." The recoveries have been good, and the women have felt decidedly stronger than on former occasions.

Dr. Moir has never met with a single case where unpleasant effects, either to mother or child, could be traced to its use. He thinks that the second stage of labour is much accelerated by the relaxation of the perineal tissues.

Dr. Malcolm, Edinburgh, has employed chloroform in thirty cases of labour with satisfactory results. He has kept patients under its influence for six hours, without any unpleasant effects. The mothers have all made rapid recoveries, which is the more remarkable, as most of the cases were primiparæ. He has in general employed about an ounce of chloroform per hour; he has never seen uterine contractions arrested.

Dr. Thompson, Edinburgh. Experience analogous to that of Dr. Simpson; considers the relaxing effects upon the soft parts undeniable.

Mr. Carmichael, Edinburgh, has exhibited it in twenty-six cases. Recoveries unusually speedy; has heard monthly nurses complain that, by expediting convalescence, it will diminish their profits. All the children alive, and doing well.

Dr. Purdie, Edinburgh, has given it in seventeen cases; is confident that it shortens the duration of labour.

Dr. Cumming, Edinburgh. Experience in thirty-five cases. All have recovered unusually well. Two cases had flooded severely in former labours; but had no hemorrhage after the chloroform. All the children born alive; none have suffered from the use of this agent. "In short, I am compelled to say, that all my cases have been so successful, &c., . . . that if there be any sin connected with chloroform, it is chargeable on those who refuse to administer it."

Mr. Stallard, Leicester, in thirty cases, has had no flooding, though two of the patients were never free from it in former labours; is of opinion that chloroform exerts no perceptible influence on the child.

Dr. Protheroe Smith has records of 125 cases of labour, in which chloroform has been used; all of which, with one exception, have done well. In several there was no flooding, though previously hemorrhage had ensued. In nearly all, the getting up has been more speedy, requiring no opiates or purgatives. He has kept patients under its influence from half an hour to twenty-eight hours.

Mr. Lansdown, Bristol, has given chloroform in twenty-six cases. He believes that it may be given with impunity as early in labour as we please, the only objection being the expense of material. The greatest length of time he has employed it is sixteen hours and a half. Most of the patients recovered rapidly. Mr. Lansdown finds no difference as to expulsion of the placenta, and the subsequent discharge.

The above quotations, from a numerous correspondence of Dr. Simpson's, sufficiently show the safety and advantage of chloroform in human parturition. Evidence of a similar tendency is also furnished by Mr. Ceely, of Aylesbury; Dr. Krieger, of Berlin; Dr. Rigby; Mr. Spencer, Isle of Man; Dr. Paton, Dundee; Dr. Dyce, Aberdeen.

4. *Mode of Exhibition, Dose, &c.*—In the same report. Dr. Simpson exhibits his method of using chloroform. Occasionally, in the early stages of labour, he has given it in small doses, so as to obtund sensibility without destroying consciousness; but this plan, as a general rule, appears to be injudicious, and, upon the

whole, he prefers to induce a deeper anæsthesia. In this case, the uterine contractions are occasionally suspended; but they are resumed on withdrawing the chloroform. When this is the case, a few inhalations repeated with each uterine contraction will keep the patient sufficiently unconscious; and this may be maintained for hours. The amount of unconsciousness which may be exactly necessary, and not too great, is, observes Dr. Simpson, only to be known by experience.

At the latter stage of labour, when the head is passing, the anæsthesia requires to be deeper; and the relaxation of the soft parts induced by this is observed to accelerate the extrusion of the child. In obstetric operations, the unconsciousness must be as complete as in surgical operations.

Dr. Simpson further remarks, that the degree and depth of anæsthesia which different patients are capable of enduring without interfering with the parturient act varies with the individual. In administering chloroform he always prefers the handkerchief. The quantity he pours on at first is usually three or four drachms. He takes care that plenty of air is admitted. The time at which he generally commences its use is towards the commencement of the second stage of labour; but if the pains are severe, he begins with it earlier.

In the latter pages of the report, Dr. Simpson reconsiders the objections religious and general.

§ II.—Diseases of Women Unconnected with Pregnancy.

5. *The Relations between Functional Derangements of the Liver and Uterus.*—Dr. Butler Lane has published a very useful pamphlet, pointing out more distinctly than has been usually done the sympathetic relations existing between the liver and uterus, both in health and in disease. Although this relation has not, perhaps, been sufficiently insisted upon, *totidem verbis*, it has, nevertheless, been pretty generally acknowledged by the profession in practice. It is impossible, in fact, for any one not to have observed the evident connexion between *alvine* and *uterine* derangement, and considering how materially the condition of the intestines is dependent upon the due elaboration and excretions of the bile, the part taken by the liver in this chain of sympathy is sufficiently obvious. Dr. Lane was more particularly induced to study this subject, during his researches on oxide of silver in uterine affections. One of those in which he derived most benefit from the medicine is menorrhagia; but he found that there was one form of this disease which resisted the oxide, but speedily subsided under the use of mercurial alteratives. Reflecting upon this, he came to the conclusion that in these instances a congested state of liver existed. The relief of which caused the expulsion of the menorrhagic discharge.

In support of his views, Dr. Lane adduces observations respecting the relative weight of the liver and the whole body, in females at various epochs of life, and further remarks upon the fact that menstruation rarely occurs without concomitant *alvine* derangement. His opinions also derive support from the action of medicine in chlorosis, from the occurrence of hepatic disturbance in dysmenorrhœa, at the cessation of the menses, and in pregnancy. The pamphlet concludes with several well-selected illustrative cases.*

6. *Strumous Disease of the Uterus.*—Dr. Lever records the case of a woman, æt. 58, who, some time before her death, complained of irregularity in the action of the bowels, with a feeling of bearing down, and pain over the hypogastric region. On examination, per vaginam, the body of the uterus was found to be enlarged, and pressing backwards upon the rectum. On a post-mortem examination, a small tumour was found in the right breast. A large tumour was situated between the uterus and rectum, and pointing towards the feet. Internally it was a light yellow colour, deepening into a reddish hue towards the circumference. The uterus itself was large, having several irregular elevations on its surface. The parietes were thick and dark-coloured. When the organ was squeezed, a curdy matter escaped through the os.†

7. *Rupture of the Unimpregnated Uterus.*—M. Gozzo, of Naples, records the fol-

* On Functional Derangement of the Liver, associated with Uterine Derangement, &c., p. 32.

† Medical Gazette, April 14, 1848.

lowing extraordinary case. A woman, æt. 34, the subject of dysmenorrhœa, and sterile, was examined. The uterus was felt above the pubis, as large as the fifth month, but perfectly destitute of inequalities of its surface. The uterus continued to increase until its fundus reached the xiphoid cartilage; the menstrual discharge was irregular, and followed by leucorrhœa. She was shortly seized with symptoms of intestinal obstruction, from which she was recovering, when she was suddenly seized with collapse and abdominal pain, and died in less than twenty-four hours. After death the peritoneal cavity was found to be almost filled with pus, mingled with serous fluid and fetid gas. The uterus adhered to the lateral parts of the abdomen, from the pubis as high as the umbilicus, filling the iliac regions; it was covered by the large omentum. The intestinal surface was irregular, and covered with fungous excrescences and tubercular masses of various sizes and forms, its cavity being filled with a white inodorous pus. The uterine walls were thickened, and contained several small abscesses, some of which were close to its peritoneal surface. The posterior aspect of the organ exhibited a rent, through which the matter had escaped into the abdomen.*

8. *Prolapsus Uteri*.—Dr. Meigs considers the distress of females suffering under prolapsus uteri as belonging to the class of neuralgic disorders, and has met with many cases of severe neuralgia of the abdominal regions, which had no other origin. He gives one remarkable instance, which will be found in a previous page (Abstract, p. 156), in which the neuralgic tenderness simulated acute peritonitis. He criticises the opinion advanced by Dr. Bennet and others, that prolapsus is often preceded and induced by engorgement of the os and cervix, disbelieving that the addition of an ounce to the weight of the organ can cause its descent, when it does not prolapse in many cases of uterine tumour and in pregnancy.

In the treatment of prolapsus uteri, Dr. Meigs has great reliance on the pessary, therein differing from many recent writers. Dr. Ashwell, also, (p. 575,) expresses his conviction that a cure may frequently be effected by their use alone. The ill effects which have occasionally been recorded are regarded by both to have been due to improper shape and adjustment of the instrument, and want of cleansing it. Of Dr. Hull's abdominal supporter Dr. Meigs speaks with great contempt. After a certain amount of benefit has been derived from the use of the pessary, the relaxed tissues of the vagina may be greatly strengthened, and the tendency to relapse prevented by the medicated "sachet" mentioned in a former page† (p. 170.)

9. *Retroversion—Retroflexion*. We have already remarked that Dr. Meigs makes but little allusion to the existence of retroflexion of the womb; Dr. Ashwell also devotes but little space to this displacement, having apparently, in a long experience, met with only two well-marked cases. He contents himself with stating, in general terms, that retroflexion and retroversion differ only in degree, and that these symptoms are, therefore, in a great measure the same.‡

—Dr. Oldham, in an essay which is too important to be treated briefly, and which we shall, therefore, postpone to our next Volume, is disposed to deny its existence altogether. The only approach to it which he has been able to meet with has been a particular form of retroversion which he describes, and in which the posterior wall of the uterus is much hypertrophied, and by its circumscribed enlargement accurately simulates a deflected fundus.

—In alluding to the more recent recommendations for the mechanical treatment of retroflexion, Dr. Ashwell passes a somewhat strong censure on the instruments employed. He observes, "I cannot avoid thinking that the uterine sound not only detects but makes many of the supposed displacements. All practical men know that the uterus varies naturally in position, in its degrees of mobility and immobility, and in the influence exerted upon it by a loaded or empty rectum or bladder; and it must be kept in view that the curve of this steel bougie may not be the curve of the uterus; and if, therefore, it is to be introduced at all (and I wish it were less frequently so), the normal position of the organ thus spiked must be made to follow the curve of the instrument, entering, and thus unnecessarily

* Archives Générales, xviii, 104.

† Op. cit. 177.

‡ Op. cit. 626.

intruding upon its cavity." Of the uterine supporter he speaks in still more unfavourable terms.*

For further information on these displacements, and their treatment, we refer the reader to Arts. 67, 68.

[In regard to the uterine sound and supporter, we feel bound to state that we have, on several occasions, conversed privately with parties in the habit of using them, and that they have each expressed the opinion that much caution is necessary in their employment, and that serious results have followed their introduction, of which the medical world knows nothing.]

10. *Ulceration of the Os and Cervix Uteri*.—Dr. Mitchell recommends the application of the ethereal solution of gun-cotton to the ulcer, which must be previously wiped dry. Several coatings are given by means of a camel's hair brush, each being allowed to dry before the next is applied. The author states that he has now given it a fair and impartial trial, and has no hesitation in recommending it as a most useful remedy.†

11. *Excision of the Cervix for Carcinoma*.—A case of this operation is narrated by Mr. Atlee. The wound healed after the repeated use of caustic, but the patient died shortly after.‡

—A case of excision of the anterior lip of the os uteri, by Dr. Clay, will be found among other extracts. (See art. 71.)

12. *Diseases of the Vagina—Fibrous Tumour*.—Mr. Curling removed a tumour of this nature, which had grown to the upper part of the vagina by a broad pedicle. Considerable hemorrhage followed its excision, which was checked by plugging the vagina.§

13. *Diseases of the Uterine Appendages—Ovariectomy*.—Three additional cases of this operation have recently been recorded; two fatal, the other successful.

Of the fatal cases, in the first narrated by Mr. Potter, it was found on opening the abdomen, that adhesions previously unsuspected existed; the cause of death was peritonitis.||

In the second, related by Mr. Arnott, the removal of a multilocular cyst was attempted by the small incision. Adhesions to such an extent were found, that the operation was not completed. The unfortunate patient died in seventy-four hours.¶ Dr. Clay, in alluding to this case, attributes the failure to the employment of the small incision.

The successful case appears in the 'Journal des Sciences Médico-Chirurgicales.' The patient, æt. 25, had been in health till 1842, when symptoms of ovarian dropsy showed themselves. She was tapped, for the first time, in May 1844, and the operation was subsequently repeated fifty times! Ovariectomy was performed on the 15th September, 1847. The patient having inhaled ether, an incision three inches in length was made to the left side, and parallel to the linea alba. The sac was punctured, and the excision then extended to seven inches. The tumour was then laid open more freely, and its contents, which were of a mixed serous and puriform character, discharged. The pedicle, which was on the left side, was pierced by a needle armed with a double ligature, was then excised, after being tied on either side. The tumour weighed nine pounds, and was made up of cartilaginous, gelatinous, and cerebriform matter. The patient was convalescent at the end of a month.

—Dr. Clay is engaged in the publication of a history of ovariectomy, which when completed, will give much assistance in placing the value of the operation on a proper basis.**

—Respecting the feasibility of the operation itself, it may be stated that both Dr. Meigs and Dr. Ashwell express themselves unhesitatingly as opponents, both writers basing their objections upon the overpowering statistical evidence against it, adduced by Mr. Phillips, Mr. Safford Lee, &c. This evidence, having been given in a former volume, it is unnecessary to reprint.

14. *Treatment of Ovarian Dropsy*.—In a valuable series of papers published in the 'Lancet,' Dr. Tilt has passed in review the several methods of treating

* Op. cit. 636.

† Dublin Medical Press, Oct. 4, 1848. ‡ American Journal of the Med. Sciences, July 1848.

§ Med. Gaz. March 3, 1848. || Ibid.; June 23. ¶ Med. Gaz., and Obstetric Record, No. 13.

** British Record of Obstetrical Science.

ovarian tumours, both medicinal and operative; the practical deductions from which may be thus summed up:

1st. Small and moderate-sized tumours may be cured by iodine and its preparations, given in large doses internally, as well as used externally, the contents of the cyst being absorbed by the cyst, or else voided by rectum or per vaginam.

2d. That tapping, employed as a palliative, and without any view towards a radical cure, should be deferred as long as possible, modern statistics having confirmed Morgagni's opinion of the danger of the operation.

3d. That when the cyst is voluminous, and felt bulging in the vagina, there is a sufficient number of successful cases to warrant the puncture of the cyst per vaginam, an India-rubber sound being left in the cavity of the cyst, and moderate pressure being made on the abdomen.

4th. That the rupture of monolocular ovarian cysts, with effusion of their contents into the peritoneal cavity, instead of being attended with alarming symptoms of peritonitis, is, generally speaking, unaccompanied by any formidable symptom whatever. Thus warranting the subcutaneous incision of the cyst.

5th. That the ulcerative opening of the cyst, after adhesion of its walls to the abdominal parietes (the new plan proposed by the author) is supported by the complete success in the case recorded, and by the success attending a somewhat similar treatment of hydatid cysts of the liver.

6th. That ovariectomy should be reserved for cases of multilocular ovarian cysts, and those cases of unilocular cysts with solid deposit.*

§ III.—Pregnancy—Labour—The Puerperal State.

15. *Signs of Pregnancy.*—In an essay recently published on the mammary secretion, Dr. Peddie insists upon the diagnostic importance of the presence in the breasts of a fluid containing milk-globules, as a sign of early pregnancy, and one in which almost implicit trust may be placed in a first conception. The fluid is described as serous and viscid, but under the microscope it exhibits milk-globules, agglomerated in masses together, with oil-globules and colostrum-granules. Beyond the limit of the first pregnancy, the author does not urge the value of the milk test, for when a woman has once suckled, the fluid is apt to linger in the breast a considerable time. Compared with the ordinarily recognised signs for distinguishing a first pregnancy from simple suppression of the menses, the author thinks that there is none to be compared with the milk test.†

16. *Early Pregnancy and Delivery of a Living Child.*—The following case, though far from unique, as regards the fact of impregnation, is remarkable inasmuch as the infant was born living and healthy. The facts are as follow. At the Coventry Assizes, a girl aged twelve years and a half, in an advanced stage of pregnancy, preferred a charge of rape against her uncle. She continued in good health till delivery, which took place on the 16th September last. Mr. Smith, of Coventry, who furnishes the details of the case, attended her in labour, which was of unusually short duration. The subsequent symptoms were equally favourable; the lochia ceased after a few days, and the secretion of milk was so copious as to suggest to the mother the idea of seeking the place of wet nurse. The infant, at birth, was long, slender, and emaciated, but subsequently improved in appearance. The mother began to menstruate at ten years old.‡

17. *On the Laws which regulate the Duration of Utero-gestation.*—Dr. Clay has, for some years, been engaged in inquiries into the conditions which regulate the terms of utero-gestation, with the object of ascertaining the law by which its duration is governed. The results of these inquiries he has recently made public.

He determines, in the first place, that utero-gestation is, as to time, entirely a question of age, and that when this is known the term may be fixed with certainty. Within the last twenty-five years he has attended eleven cases of labour, four of which occurred below the age of fifteen years, seven under the sixteenth year. The term of impregnation was clearly made out in most of these cases, and in all the labour came on apparently at the full period of pregnancy. In fine, the gestation did not exceed 267 days. In two the dates could not be de-

* *Lancet*, Nov. 11, 1848. † *Monthly Journal*, August. ‡ *Medical Gazette*, Nov. 4, 1848.

pended upon. The remaining four continued beyond the time calculated for their ages, but the discrepancy is accounted for on another ground, which Dr. Clay subsequently notices. He also has attended two labours at the age of fifty-two, in both of which the date of impregnation was correctly ascertained; in these the gestation lasted 290 days. In two cases, one *æt.* twenty-five, the pregnancy was 274 days, and in another, *æt.* thirty-five, it was 278 days.

The influence of the age of the female on the period of gestation in the lower animals, as is also its dependence on the age of the sire, appears to be well known to cattle-breeders, and a paper on the subject appeared some time back in an American medical journal, which also gave the result of experiments on the human female. Dr. Clay has compared them with his own observations, and has made out the following table of the duration of pregnancy at the several ages below asserted :

Years.	Days.
15½	267
17	270
19	272
25	274
30	276
35	278
44	284
52	290

This table shows plainly that gestation is prolonged in ratio with the age of the female, but, as Dr. Clay candidly admits, further experience is required to invest the observations with the whole force of truth.

The other law alluded to as influencing the duration of gestation is, that it depends upon the age of the father as well as of the mother. Dr. Clay states that his attention was first directed to this point by the four cases of early pregnancy above mentioned, which he observed to extend over a longer period than their ages would *per se* have warranted. It is remarkable that each of these was *impregnated by a man much older than herself*. This led him to strike an average of the ages of both parents as the rule whence to judge of the duration of the pregnancy; and to anticipate that a longer term of gestation may be expected when a young female is impregnated by an elderly male, than would be calculated from *her* age; and *vice versa* that a shorter period would be observed than is natural to her age, when an elderly female is impregnated by a young man.*

These observations are very important, and though, without further confirmation they cannot be implicitly received, they will doubtless have a due influence in modifying the authority of data arising out of loose calculations, based upon the last appearance of the menstrual discharge.

18. *The Periodoscope*.—In connexion with the subject of gestation, we take the opportunity of mentioning an ingenious instrument for the ready calculation of the periodical functions of the sex, invented by Dr. Tyler Smith, and named by him the Periodoscope. It consists of a moveable circular dial, upon which the months and days are engraved, fixed on a pivot in the centre of a large plate, upon which are numbered the different conditions of the reproductive system, as conception, abortion, premature labour, hemorrhage, labour, &c. By a knowledge of the date of conception, say November 14th, and fixing the moveable plate opposite to the point on the fixed plate which indicates *conception*, the observer is enabled at once to see that, allowing 280 days for gestation, labour may be expected about the 20th of August; he will also know the dates at which any of the accidents common to gestation may possibly occur, taking it for granted, that is to say, that Dr. Tyler Smith is correct in the statement that the ovarian or menstrual periods are the times at which abortion, hemorrhage, &c., are most likely to supervene. This dial is made in cardboard, and affixed to a small volume, in which its uses and applications are fully explained.†

19. *Prolonged Gestation*.—The following case of gestation, prolonged to probably 296, certainly to 293 days, occurred under the personal observation of Dr.

* Obstetric Record, No. 11, 1848.

† The Periodoscope. London, 1848.

M^r Ilwain, by whom it is reported. The parties are of unexceptionable character, and the statement of the husband that no intercourse was had after the night of the 4th of July, may be implicitly relied on.

Mrs. ———, whose character is above suspicion, was visited on the evening of July 1st, 1847, by her husband, whose business had compelled him to reside for more than a year before in a distant state. The husband remained till the morning of the 6th of July, and then departed, and did not return for more than nine months. On the nights of the 1st, 2d, 3d, and 4th of July there was sexual intercourse between the parties, but none on the night of the 5th, or after. Shortly after Mrs. ——— considered herself pregnant, and on the 23d of April 1848, was delivered, after an easy labour, of a fine healthy female child, weighing nine pounds.

Supposing impregnation to have occurred on the night of the first, as a consequence of the first coition, the duration of the pregnancy must have been 296 days, but if we suppose the last copulation to be the one from which the pregnancy resulted, the period of gestation was 293 days.

This case is interesting, inasmuch as it furnishes conclusive evidence that gestation may be prolonged to thirteen, if not sixteen, days beyond the usual period.

The large size of the child—being a full pound and a half above the average weight of female children, is a circumstance in favour of its having been carried beyond the usual period.

The mother had borne three children previously, none of which weighed over eight pounds.

It is to be regretted that the age of neither party is mentioned.*

20. *Extra-uterine Fœtation*.—A case is related by Dr. Peters, of Missouri, the nature of which was not ascertained during life. The woman, who was not known to be pregnant, was suddenly seized with collapse and intense pain in the abdomen, and died in two hours. On examination, the cavity of the abdomen was found to contain fifteen pints of fluid blood. An embryo, with its membranes, was partly adhering to the upper anterior part of the bladder. The chorion, and amnion, and placenta, were distinctly seen. The embryo was three inches in length; all the external members were perfectly formed; it had one coil of the funis around its neck. The uterus was three times its natural size, and three fourths of an inch in thickness. The inner surface presented no appearance of a membrane lining it. The glands Nabothi were slightly enlarged. The Fallopian tubes presented nothing unnatural, externally or internally. The orifices had the appearance, at the angles of the uterus, which they usually have in the unimpregnated state. The right ovary was much larger than the left, and when cut into, one of the Graafian vesicles was seen to be enlarged, and filled with a brownish-coloured fluid.†

21. *Multiple Conceptions*.—*Expulsion at different times*.—In our last Volume, page 264, we recorded some cases in which one fœtus was expelled and another retained for a longer or shorter period. It would seem that these instances, erroneously considered to be cases of superfœtation, are more common than is generally supposed, as we find six cases recorded by M. Brachet, in some of which the second fœtus was retained, and born alive at full term. M. Brachet also relates a remarkable instance in the rabbit, in which, after one congress with the male, two successive litters of seven were deposited, with an interval of 30 days. The fact of the single access of the male was here distinctly ascertained.‡

—Dr. Samuel Merriman has republished a very remarkable case bearing on this subject, which, with some very apposite remarks, may be found in the 'Obstetrical Record,' No. 13, 1848.

22. *Dropsy in Pregnant Women*.—An elaborate memoir on this subject by MM. Regnault and Devillier has been translated in the 'Provincial Journal.' The authors distinguish the dropsical effusions of pregnancy with

1st. Œdema, either simple or complicated, with affection of the central organs of respiration and circulation; and,

2d. Œdema, associated with albuminuria. After noticing the changes induced

* Boston Med. and Surg. Journal, June 1848.

† *ib.*, May 1848.

‡ Journal de Méd. de Lyon, 1841.

by the pregnant state upon the composition of the blood, and more especially the tendency to diminution of albumen, they proceed to the history of simple anasarca. By this term they allude to the serous infiltration of the lower extremities so often seen in pregnant women, and which are caused by the pressure of the gravid uterus on the iliac veins. These are harmless, and disappear on delivery.

When associated with disease of the heart or lungs, anasarca is not to be regarded so much in reference to the condition of pregnancy as to the organic disease. The prognosis is more unfavorable, and the treatment is to be conducted as in the unimpregnated state.

The second form of dropsy, or that accompanied by albuminuria, is considered by the authors under two aspects, as it is or is not complicated with convulsions.

The distinctive character of this form of dropsy is the appearance of albumen in the urine. Respecting the symptoms, progress, and treatment, the authors have nothing new to communicate.*

23. Labour and its Complications—Induction of Premature Delivery.—Dr. Hoffman has undertaken a laborious statistical investigation of all the cases of artificial induction of labour within his reach, of which he has, in the whole, collected 524 examples.

The age of the mother is recorded in but 146 cases, the youngest being 17, and the oldest 44; in more than one half of the entire number she had reached or passed her 30th year. Of 528 cases, in only 49 was the operation resorted to in a *first pregnancy*. Although the repetition of the operation in the same woman must have been no infrequent occurrence, the author finds records of this only in 34 cases, in some of which it was performed three, four, or more times. The stature of the women is recorded to have been oftener small than large, as would be expected, from the greater frequency of small and rickety pelvis in conjunction with the former. In comparatively few cases has the author found the indications for the operation furnished, but justly concludes that, in the bulk of cases, it has been instituted on account of narrow pelvis. In only 68 cases does he find that *preparatory treatment*—such as baths, tepid injections of the vagina, friction of the abdomen, &c.—has been put into force; an omission, he considers, much to be regretted.

In nearly two thirds of the cases, the *mode of operation* is given. Of the more generally admitted of these, the use of *secale cornutum* is recorded in 45 cases, almost entirely by English practitioners. In these, 23 children were born alive, 15 dead; and, of the whole 38 noted, 12 others died within 36 hours after birth. The *Hamiltonian* plan of detaching the membranes, modified by several Germans, is exceedingly tedious. The introduction of *prepared sponge* is a favorite mode with the Germans, and was employed in 70 cases. In 56 cases in which the condition of the child was noted, 42 were born living. *Puncturing the membranes* is the oldest mode, and has been resorted to in 180 cases, and, indeed, doubtless in many of the others not specified. It is beyond all others the easiest, quickest, and most certain means of inducing premature labour, but has been received with much more favour in England than in Germany. By it, however, a far less proportion of children are saved than by the use of the sponge. The fates of 178 are specified, of which 103 were born alive, 12 still-born, and 63 born dead.

As to the *presentation of the child*, it is specified in only 120 cases; and of these 45 were cephalic, 75 non-cephalic presentations. This proportion is, however, delusive; as it is nearly certain that all the cases not specified were natural presentations. Even allowing this, we still find every seventh case a preternatural one. In the 75 cases, the great number of 19 cross-births are noted. In 84 cases the completion of the labour required assistance; in 36 by the forceps, 18 by turning, and 11 by perforation.

The fate of the *child* is recorded in 373 cases, in which 250 were born living, or recovered from asphyxia, and 123 dead. But in 77 of these cases, the child died from circumstances which could have had no reference to the operation, as faulty position, perforation, &c. Of 192 of the children born living, further reports state that 127 continued to live, and 65 had died—28 in the course of six hours, six in 24 hours, and the rest at periods varying from a day to a year or more.†

* Archives Générales, and Prov. Journal, Aug. 9, 1848.

† Neue Zeitschrift für Geburtskunde, vol. xxiii, and Brit. and For. Med.-Chir. Rev. Oct. 1848.

24. Difficult Labour—from Vaginal Cicatrices.—Dr. Purefoy gives the case of a female, *æt.* 40, who had previously been delivered by craniotomy, after a severe and lingering labour, after which the vagina sloughed, and gave rise to a vesico-vaginal fistula. At her second confinement the vagina was found to be traversed by a rigid circular cicatrix, which entirely prevented the finger reaching the uterus, and through which the cord had prolapsed with the arm presenting. Subsequently, this stricture was found to be connected with the os uteri by intimate adhesion. Repeated attempts with the finger succeeded in dilating it, and at last the hand was passed into the uterus, the child turned and delivered, after a labour of about two days' duration. It was only seven and a half months old. Violent inflammation of the uterus with fever set in, and the patient sank at the expiration of a month, worn out by repeated rigors, hectic fever, sloughing and suppuration of the vagina, with obstinate diarrhoea, and attacks of bilious vomiting.

In the other case, the woman was in labour with her third child. Of her second child she was delivered with great difficulty, by the aid of instruments. In the seventh month of this, her third pregnancy, she underwent much fatigue, and labour pains supervened. On being examined, the foetal heart was found pulsating, and the breech presenting at the os uteri. The pains caused her excessive suffering. After labour had continued nearly two days, a dead child was born. She made a good recovery.*

—*From complete Occlusion and Rigidity of the Os Uteri and Vagina.*—Dr. Traak has published a paper (see art. 74), which the reader will find to be a very valuable addition to the literature of the accident. It will be seen that the author regards inflammatory action as the most frequent cause of occlusion, and advises that interference should not long be delayed, for fear of rupture of the uterus.

—Dr. Paul Bedford, U. S., narrates a case illustrative of the foregoing accident, and its treatment. The female had been labouring six-and-thirty hours before she was seen by Dr. Bedford, and no os uteri could then be discovered either by himself or Drs. Mott and Clinton, who had been previously in attendance; in fact, it was completely obliterated. Dr. Bedford, therefore, with the consent of his colleagues, made a bilateral section of the cervix, through which the head was immediately felt. The labour was not materially hastened by this proceeding, and as symptoms of exhaustion declared themselves, the forceps were applied, and the child extracted. Both it and the mother did well.†

25. Prolapse of the Gravid Uterus during Labour.—An additional instance of this complication is narrated by Dr. Watson, U. S. He was called to a female *æt.* 22, in labour with her first child. She was lying on the floor, and the attending midwives were in the greatest consternation. On examination, he found the uterus entirely out of the vulva, and containing a fetus of full term: it was dry and ecchymosed, with the os uteri partially dilated, but thick and unyielding. Dr. Watson enveloped the uterus in warm clothes, and, as uterine action ensued which threatened rupture, he incised the cervix to the extent of three quarters of an inch in three directions. After delivery the uterus was replaced, and kept *in situ* by a sponge pessary.‡

—Analogous cases to the above will be found in our preceding Volumes. (Vol. III, p. 319, and Vol. V, p. 252.)

26. Spontaneous Evolution.—In a critical inquiry into the mechanism of the spontaneous evolution of the fetus, Dr. Clay has endeavoured to reconcile the discrepancies in the opinions expressed by different writers. He shows that in the cases considered as instances of spontaneous evolution there have been two orders of foetal position. In the one, in which one presenting part has retired, and another advanced, he maintains that the evolution has not taken place in the pelvic canal, but in the uterus itself. The other is when the evolution takes place in the pelvic canal, in which the part first presenting never retracts, but allows the uterine action to push the other parts of the fetus past it, and thereby accomplish delivery. The first of these are the cases commonly recorded as instances of evolution. In his farther description of the process, Dr. Clay accords

* Dublin Quarterly Journal, May, 1848.

† Amer. Journ. of Med. Sciences, April, 1848.

‡ Philadelphia Med. Examiner, April, 1848.

with the opinion of Dr. Douglas, which he quotes at length, and concludes by expressing his opinion that no such circumstance as evolution ever takes place; in the first class of cases it is merely a change of presentation, and in the second the child is born doubled up.*

—In a short communication by Dr. Radford, in the same number of the 'Obstetric Record,' views, identical with those of Dr. Clay, are propounded, and the author proposes, as a substitute for the improper expression "evolution," that of *torsion, doubling, and expulsion*. Two cases are related, in both of which it was distinctly ascertained that the presenting arm did not return, but that the shoulder was, during the whole process of expulsion firmly wedged under the pubis.†

—A case of the first form of "evolution," where both hands presented, and were subsequently replaced by the foot, is recorded by Mr. Davies.‡

27. *Turning in Narrow Pelvis*.—We continue the analysis of Dr. Simpson's Essay. (See Vol. VII, p. 275.) Having shown that the danger to be anticipated from compression of the child's head in dragging it through a distorted pelvis is exaggerated, the author next shows, by statistical evidence, that the practice is not incompatible with the safety of the child, in consequence of compression of the cord, and concludes, therefore, that, as respects *its* life, the new practice has infinitely the preference over craniotomy. But an important question still remains: how is the mother's safety affected in the two operations respectively? To this question he devotes a separate section.

He commences by exhibiting the mortality of the operation of craniotomy to the mother, from tables drawn up from Dr. Churchill's collection of data, and contrasting them with the mortality from turning. This he shows to be for craniotomy 1 in 5, for turning 1 in 15. So far, he observes, figures give a result in favour of turning in general, but the question requires to be further extended to the comparison of turning in narrow pelvis, in which forcible extraction and compression by the head is necessitated. That such compression of the maternal tissues is not a source of so much danger as might be anticipated, the author next endeavours to demonstrate, by a comparison of cases of craniotomy accompanied and not accompanied by force in the extraction. He, for this purpose, analyses 87 cases reported by Dr. Lee, in 30 of which, where unusual traction was necessary, the mortality was 2, or 1 in 15, while in 57, in which no particular difficulty was noticed, the mortality was 1 in 4½, causing it to appear that, *ceteris paribus*, unusual traction and compression does not add to the maternal mortality; and therefore that such an event is not to be anticipated in turning under similar circumstances. The reason of this he considers to be that what is lost in *force* is gained in *time*; in other words, that more danger would accrue from the prolongation of the labour, than from the early and temporary pressure exercised in turning; the danger in parturition being, as he shows in Sect. 4, proportionate to the duration of the labour.

This latter law Dr. Simpson considers so important, that he recurs to it in the present part of his essay, by tabulating the forceps and craniotomy cases of Dr. Collins, under this particular point of view. He thus demonstrates that the maternal deaths from instrumental aid were 1 in 16 when the labour had not continued 24 hours, while in labours of 48 hours' duration it rises to 2 in 5. So also in turning, where the labour was under 24 hours, the mortality was one in 21, when above 24 hours, 1 in 3.

In summing up the preceding observations, Dr. Simpson draws the following deductions:

"1st. A means of artificial delivery, such as turning, which, in cases of pelvic contraction, would allow us to finish labour at an early date, should, as a general rule, add greatly to the safety and chance of life of the mother, as compared with a means of delivery, such as the long forceps or craniotomy, which cannot be legitimately practised till a much later period after the commencement of parturition.

"2d. The facts I have adduced show that the exertion of force in artificial delivery is attended with comparatively little danger, provided the delivery is early; and that it is less hazardous than the protraction of the labour.

* Obstetric Journal, No. 13, by J. Radford, p. 8.

† Cases of Torsion, &c., in Shoulder Presentations.

‡ Obstetric Record, No. 7.

"3d. All these deductions are only corollaries to this higher and more comprehensive law, that the degree of danger and fatality attendant either upon natural or morbid parturition increases in a ratio with the increased duration of the labour.*

—The publication of the preceding essay, and more particularly its fourth section, in which the mortality of the mother is stated to increase in a ratio proportioned to the duration of labour, has called forth a letter from Dr. Collins, of Dublin, complaining that Dr. Simpson's calculations, founded upon his (Dr. Collins) tables, are erroneous, inasmuch as he omits to state the cause of death in the cases of labour prolonged over twenty hours, and which Dr. Collins declares to have been in many instances unconnected with delivery. The writer then proceeds to state his belief that the proposal to turn in deformed pelvis is a dangerous doctrine, especially now that under the use of chloroform, a degree of force is likely to be employed without the expression of pain, which may be productive of the worst consequences, and finally reiterates his complaints of statistical inaccuracies on the part of Dr. Simpson.†

—In reply to this letter, Dr. Simpson retorts the charge of inaccuracy upon Dr. Collins, and endeavours to show the correctness of his former statements by a more detailed account of the statistics upon which they are based. Thus he shows, in reference to the maternal mortality of protracted labours, that of Dr. Collins's 15,860 labours, 3587 terminated in 1 hour, with a mortality of 1 in 322, while 130 were prolonged over 36 hours, with a mortality of 1 in 6; and so on in regular progression between the two extremes. In a second table he shows, contrary to the assertion of Dr. Collins, that the morbid complications of delivery are increased also in ratio with the duration of labour; as, for instance, in reference to puerperal fever, that it occurred once in 219 cases, where delivery took place within 6 hours, and once in 59 cases, where it was prolonged over 12 hours. The same evidence is also given regarding infantile mortality.‡

[It would thus appear that the same figures, when handled by Dr. Simpson and Dr. Collins respectively, give rise to opposite results. Which is right and which is wrong we will not venture to decide; for to do so with any show of justice would necessitate an analysis on our own part of the litigated statistics, a labour which the calls upon our time entirely preclude.]

—In confirmation of the feasibility of turning in narrow pelvis, we may state that Dr. Wilson, of Glasgow, affirms that he has followed the practice for the last thirty years, and thinks that he has saved many lives by it. He, however, puts certain limitations upon its performance; for instance, when labour has been protracted, and the patient's strength exhausted, he would not think it justifiable; nor when there are reasons to believe that the child is dead. His motives for preferring to turn, under the circumstances which he deems justifiable, are, that in that operation the more yielding squamous portions of the temporal bones first come into contact with the narrowed brim of the pelvis, instead of the comparatively inelastic parietal bones.§

—We neglected to mention in our former Report that Dr. Radford had published a short communication on "Turning in Contracted Pelvis;" we therefore take the present opportunity of supplying the omission. Dr. Radford informs us that Velpeau is the first writer who practised turning under these circumstances. Before having recourse to the operation, he states the necessity of being able to estimate the degree of distortion relatively to the size of the fetal head, otherwise it may happen that after all the perforation will be required, which, after turning and extracting the body, will, he believes, be attended with increased difficulty and danger. He further expresses his opinion that it would be culpable to attempt turning with the passages undilated, or when the liquor amnii has been some time discharged. As regards the chances of the child's life, he thinks that when the contraction is slight, the long forceps is, in the majority of cases, to be preferred. Further, in reference to the comparative facility with which the head will pass, he differs from Dr. Wilson in considering that the base coming first, as in footling cases, does not facilitate the delivery, unless such unwarrantable force be used as

* Provincial Journal, Oct. 4, 1848.

† Ibid. Oct. 18, 1848.

‡ Ibid. Nov. 1.

§ Edinburgh Monthly Journal, May.

will risk the separation of the body from the head. On the whole, we gather from Dr. Radford's paper, that however anxious he is to do away with craniotomy, he is not an advocate for turning to the extent advised by Dr. Simpson.*

28. *Uterine Hemorrhage*.—A very elaborate and complete essay on uterine hemorrhage has been written by Mr. Newnham, of Farnham, which we shall attempt briefly to analyse.

Uterine hemorrhage, he informs us, may be active or passive, the distinction being made to rest upon the quantity of blood lost in a given time. It may also be external and visible, or internal and concealed. The latter would be aggravated in a case of twins, because a larger space is occupied by the placental attachments. In highly nervous females, it may arise from mental emotion; hence the necessity of the expression of hope and confidence on the part of the accoucheur. Menorrhagia, hemorrhage from ulceration of the os, from polypus, and malignant disease, &c., are mentioned as instances of the occurrence of hemorrhage in the unimpregnated uterus.

Abortion, as a cause of hemorrhage, is next considered, and its causes are separately brought under review. These are shown to be chiefly plethora, anemia, nervous surexcitation, original feebleness, death of the fetus, accidental separation of the ovum, fever, syphilis, organic disease of the uterus, mental emotion, &c.

In treating of hemorrhage after delivery, the author first mentions inertia of the uterus as a cause, and gives certain judicious rules in reference to the management of the delivery of the child and placenta, and the means of obtaining contraction of the uterus. He next enunciates the circumstances which may give rise to internal hemorrhage, and alludes to the use of the plug, and the circumstances under which it is and is not available. He subsequently proceeds to discuss the treatment of placenta previa, more particularly in reference to the disputed question of the propriety of extracting the placenta. To this practice he adduces several objections. In the management of these cases, the author adopts the practice usually recommended, viz., where the neck is undeveloped, as before or at the seventh month, to wait, unless life be threatened, and then to evacuate the liquor amnii, and bring on labour. If the cervix is developed, and the os dilated or dilatable, to *torn* and deliver; if the latter state does not exist, to wait, give antimony, &c., till sufficient relaxation ensues. He thinks it immaterial whether the child is reached by the side of, or by going right through, the placenta.

As the general treatment of uterine hemorrhage, which is the next subject reviewed, the author speaks *seriatim* of the several remedies generally employed. He objects to the indiscriminate application of cold, and believes that ergot has received a degree of credit to which it is not entitled. The plug is only available or justifiable in the early months. Sedatives, the mineral acids, opium, and galvanism, are all in their turn discussed, and the essay concludes with short instructions for the management of convalescence.†

—In hemorrhage from placenta previa, Dr. Bellini advises incisions of the cervix in the latter months, to expedite delivery. He cites four cases, in which this practice was adopted with success, on account of rigidity of the os uteri.‡

29. *Removal of the Placenta before the Child*.—Dr. Waller narrates six cases in which the placenta was extracted before the child, and others are recorded by Dr. Ray, Mr. Stokes, and Mr. Meadows. In all these, the hemorrhage ceased immediately.§

30. *Prevention of Hemorrhage from Inertia*.—Dr. Christie advises the bandage before delivery, and the exhibition of ergot just before the head is expelled ||

31. *Rupture of the Uterus*.—We beg to direct the attention of the reader to a memoir on this accident by Dr. Trask, an abstract of which will be found at a previous page (art. 74). It is an exceedingly elaborate production, and offers a more complete history of the subject than any previously published.

—The memoir of Dr. Krantz has been retranslated by Dr. Clay, and may be found in his 'Obstetric Record.'¶

* Prov. Med. and Surg. Journal, July, 1847.

† Obstetric Record, Nos. 5, 7, 9.

‡ Reviewed in Brit. and For. Med.-Chir. Rev. Oct. 1848.

§ Monthly Journal, June, 1848.

|| Obstetric Record, No. 11.

¶ No. 8.

—Dr. Tyler Smith has treated of rupture of the uterus in his lectures before alluded to. He believes that the accident is generally due to exaggerated uterine action alone, and that in all cases it takes a prominent share in its production. His views of the causes and prevention of the accident, based upon the excitatory theory, are well worthy of consideration.*

—Two cases of rupture of the uterus are reported by Dr. Mitchell. In the first, one leg only had escaped into the abdomen; the child was extracted, and the woman recovered, under the use of large doses of opium.

In the second case, the escape of the child was complete; gastrotomy was performed after the mother's death, but it is not stated whether the child was saved, though it may be inferred that it was not.†

—A case of recovery after ruptured uterus is also recorded by Dr. Coley. In this instance the fetus, with the exception of the head, had escaped into the peritoneal cavity. The narrator states that he introduced his hand through the rent, and, seizing the feet, dragged the body back into the uterus, and so delivered the child.‡

—Dr. Simpson also describes two cases of rupture depending upon hydrocephalic fetuses, and alludes to the frequent connexion between the two conditions. In confirmation of this, he states that out of seventy-four cases of intra-uterine hydrocephalus collected by Dr. Keith, rupture of the uterus occurred in sixteen. He further insists upon the necessity of early completion of delivery, when the fetus is ascertained to be hydrocephalic, and advises puncture of the cranium with a trochar rather than craniotomy.§

32. Puerperal Affections.—We cordially direct the reader to the perusal of the articles on the puerperal conditions and affections, in the last number of Dr. Copland's 'Dictionary of Medicine,' as offering a complete epitome of the present state of knowledge on these important subjects. There is not, in fact, a single condition incidental to the puerperal state which has not there met with a most ample and careful examination.

33. Fainting after Delivery.—All accoucheurs are familiar with fainting from hemorrhage after delivery, but there is another cause of that accident alluded to by Dr. Meigs, which obstetrical writers do not appear to have sufficiently insisted upon. This cause is to be found in the sudden removal of the support to the abdominal blood-vessels, by the emptying of the womb, and is analogous in its rationale to the fainting which often follows tapping in ascites or ovarian dropsy. This is to be prevented by the timely use of the bandage, and may be treated by pressure of the abdominal parietes, combined with the use of stimulants.||

—The same author alludes to the possibility of the occurrence of fainting from distension of the vagina by coagula, without refilling of the womb. He considers, however, that there is some other principle involved besides the actual loss of blood, but be this as it may, the patient will recover by simply turning out the clots, without any other resource. "To turn out the clots," the author remarks, "is to relieve the patient of her deliquium."¶

34. Puerperal Fever.—Dr. Copland divides "puerperal fevers" into mild and severe: the former class including ephemeral fever or weed, intestinal or gastric fever, and miliary fever; the second comprising puerperal peritonitis, inflammation of the uterine appendages, &c. It is of these latter only that we profess to give the author's views more in detail.

Classification of Puerperal Fevers.—Dr. Copland alludes to the various descriptions of fever by different writers, each based upon the experience of the individual writer, and therefore not sufficiently comprehensive. Thus Armstrong, Hey, Campbell, &c., who observed only the inflammatory form, were indignant at the idea that a low typhoid type, as described by Clarke and Hamilton, could have an existence. Again, others have viewed puerperal fever as more or less complicated in form and nature. John Clarke recognised three types:—1st. That consisting in local inflammation; 2d. Primary inflammatory or synchetal fever developing local inflammation; 3d. Typhoid fever with inflammation. Dr. Lee refers the symptoms to four varieties:—1st. Inflammation of the peritoneum; 2d. Inflammation

* *Lancet*, Nov. 4.

† *Monthly Journal*, June, 1848.

‡ *Obstetric Record*, No. 13.

§ *Females and their Diseases*, p. 550.

¶ *Ibid*, No. 11.

¶ *Ibid*.

of the uterine appendages; 3d. Inflammation and softening of the muscular tissue of the uterus; 4th. Inflammation and suppuration of the uterine veins and absorbents. Gooch, Boivin, and Deyes have reduced the varieties to two: simple inflammatory and typhoid, &c.

A consideration of these and other classifications, tested by his own experience, has led Dr. Copland to propose the following:

- 1st. Inflammatory Puerperal Fever { Puerperal peritonitis, inflammation of the uterine appendages.
- 2d. Synchooid Puerperal Fever { with peritonitis,
— metritis, &c.
— phlebitis.
- 3d. Malignant Puerperal Fever.

Of these, the second is that most frequently observed, both in public and private practice.

Besides these forms, Dr. Copland alludes to another, which is no more or less than true typhus occurring in the puerperal state, but, as he correctly observes, fever thus originating should no more be viewed as a form of puerperal fever, than smallpox or scarlatina under the same circumstances.

With the above sketch of the systematic arrangement of puerperal fevers, the author proceeds to detail the symptoms, causes, diagnosis, &c., of each. On these points our space allows us only to remark, that the description is most minute and accurate. On the debatable question of the contagious and erysipelatous nature of puerperal fever, Dr. Copland decides in the affirmative, and brings forward a mass of evidence in confirmation of his opinion, which renders any other conclusion next to impossible. He terminates this part of his subject with the following cautions, in the importance of which we heartily concur.

1st. That lying-in hospitals have been supported in mistaken views, and that the charity would be more safely bestowed to its objects, and to others contingently, if it were so administered as to afford the required aid, and increase the comforts of patients at their own houses.

2d. If these institutions be still supported, the physicians and surgeons ought not to attend the cases of puerperal fever or erysipelas which so often break out in them, for by so doing they convey the poison from one patient to another. In all such cases, the consulting physician or surgeon, who should not be engaged in midwifery practice, ought to take charge of these cases, which should be moved to a separate part of the establishment.

3d. A physician or surgeon, engaged in midwifery practice, on the occurrence of puerperal fever in any of his cases, should either call in a physician not engaged in this practice, to whose care she should be committed, or he should relinquish the care of puerperal females during his attendance in cases of this fever, or even in cases of erysipelas.

4th. An obstetric practitioner should not make an autopsy of a case of puerperal fever, erysipelas, peritonitis, diffuse cellular inflammation, &c., nor even attend such case, without washing his hands and changing his clothes, and allowing three or four days to elapse between such attendance and midwifery engagements.

Dr. Copland forcibly and justly argues, that though formerly indulgence might fairly be extended to those practitioners who unwittingly conveyed this deadly pestilence from patient to patient, no excuse on the plea of ignorance should now be granted. To be the means of propagating the disease is no longer a *misfortune*, but it is a *crime*. In this remark we emphatically concur.

—On the subject of contagion, Dr. Meigs (op. cit.) maintains the opposite opinion. "If," he observes, "you should assert that a medical man may generate the fomites of the disease in his own constitution, without being at the same time subject to any manifest signs of the malady himself, you will arrive at a conclusion far more probable than that of the contagiousness of this generally serious malady." It must be stated nevertheless, that from the care he takes to inculcate caution as to ablution, &c., his convictions in the non-transmissibility of puerperal fever are not of the most positive kind.

35. *Treatment of Puerperal Fever.*—Dr. Copland considers the treatment of each of his varieties of puerperal fever *seriatim*.

In the *Inflammatory* form, the antiphlogistic treatment is to be carried out as in simple peritonitis, due allowance being made for the previous sanguineous losses or exhaustion of the patient. Dr. Copland, however, cautions the reader that there are mixed cases, partaking somewhat of the nature of both the inflammatory and the synchoid forms, especially in large towns, and in these that it will be prudent to trust to calomel and opium, turpentine, &c., rather than to large bleedings.

In the *Synchoid* form, with local inflammation in whatever organ, the early reaction quickly passes into a state of asthenia, and in this, though small local bleedings are sometimes required, Dr. Copland abjures all active depletion. The remedy upon which he chiefly depends is *turpentine*. From a lengthened experience of its effects, and, from his own account, a much larger experience than has been met with by any other writer, he states that it is the most efficacious medicine which can be given. At the same time, especially where the local reaction is great, he advises the exhibition of calomel, camphor, and opium. This favourable opinion of turpentine, it must be remarked, is not entertained by Dr. Lee and many others; but Dr. Copland disposes of their objections, on the plea that they have not given it a fair trial. His mode of administering it, is to give half an ounce, with or without castor oil, three times, besides administering it by enema.

In the *malignant* form, turpentine is still, according to Copland, the remedy; but he conjoins calomel, opium and camphor, with or without capsicum and quinine, according to the degree of vital depression. The reader is requested to turn to the article whence these remarks are taken, for an admirable *résumé* of the various modes of treatment recommended, and a careful comparative estimate of their effects.

—In the treatment of puerperal fever, Dr. Meigs is a disciple of Gordon, believing that profuse bloodletting is the sheet-anchor. He is not deterred by the reports of typhous forms of the disease from regarding it as an inflammation, and treating it accordingly. He follows the bleeding with calomel and opium.*

36.—Mr. Boddy has narrated his experience of puerperal fever, as it appeared in 1842, in the Westminster Lying-in Hospital. The number of cases observed was twenty-six, the analysis of which shows forcibly the effects of low temperature and mental prostration in the production and mortality of the disease. Respecting treatment, he remarks that in the malignant form all methods of treatment appear equally inefficacious. The most rational plan to pursue he conceives to be to subdue local inflammation by local depletion, to allay pain by anodynes, and to give mercury. Removal of putrescent vaginal secretions he properly regards of great importance; as also the support of the strength by nutritious diet, and stimuli when necessary.†

37. *Communication of the Disease by the Accoucheur*.—Mr. Beecroft reports seven cases, all of which proved fatal, and for the occurrence of which he is distinctly answerable. He was a non-contagionist until the fourth case opened his eyes, and he then thought it right to leave his practice for nine days. On his return, as might have been predicted after so short a seclusion from midwifery practice, he had three other fatal cases. This is an addition to the already too numerous instances of the direct conveyance of the disease by the attending accoucheur.‡

[We trust that the time is not distant when every practitioner will be imbued with the conviction of the contagious nature of puerperal fever, and of his own share in its propagation; and that no feeling of self-interest will intervene to prevent the performance of an obvious duty, that of declining practical midwifery for a time, immediately upon the occurrence of a case in his own sphere. With the amount of evidence before him, upon which this duty is inculcated, we do not envy the feeling or the conscience of the man who meets with three or four cases in succession.]

38. *Quinine a Prophylactic in Puerperal Fever*.—In an epidemic which occurred in the hospital of Rouen, in 1843, Dr. Leudet endeavoured to ascertain whether, by the exhibition of quinine, the body might be enabled to resist the invasion of puerperal fever. From September 21st, 1843, to January 8th, 1844,

* Op. cit.
PART VIII.

† Obstetric Record, No. 19, 1848.

‡ Lancet, June 24, 1848.

63 women were delivered in the hospital. In 9 of these women, who took quinine, no instance of puerperal fever occurred; while in the remaining 74, who did not take it, 21 were attacked. In 1845, of 26 puerperal women, 15 were treated with quinine, of which only 1 was attacked with the fever; while of the 11 who did not take it, 8 had the disease. Again, in 1846, between the 19th of March and the 21st of April, 36 women were delivered. Quinine was administered to 17 of these, one of whom only was attacked; while of the remaining 19, the disease appeared in 11.

Dr. Leudet begins by giving five grains of quinine four hours after delivery, and repeats the dose every six hours till the third day, when the quantity is diminished. In certain instances he commences before delivery.*

39. *Puerperal Convulsions*.—We have received a pamphlet on the 'Epileptic Form of Puerperal Convulsions,' by Mr. Joseph Thompson, of Nottingham, which is worthy the attention of every accoucheur. There are, perhaps, few of the accidents to which the puerperal female is exposed which have been the subject of more difference of opinion, as to pathology, than convulsions; and it may be stated with truth, that, until the researches of Marshall Hall were brought to bear upon the disease, the nature of the attacks was wrapped in complete obscurity. The author's object, in the present essay, is to explain the phenomena of the affection on the basis of the excitomotor theory, and this he has done in an admirable manner. It cannot be said that he has advanced any idea which would appear novel to those who are familiar with Dr. Hall's important discoveries, and who are accustomed to view the diseases of the nervous system by the light which they have afforded; but to the mass of the profession, which we fear does not fully understand, or appreciate, the physiology and pathology of the true spinal system, Mr. Thompson's pamphlet will afford much valuable information, and will clearly unravel a subject which must, without such aid, be one of confusion and obscurity. The length of the essay prevents our following the author very closely. The first and second sections, which treat of the symptoms and causes of puerperal convulsions, we pass over, as they are but a recapitulation of the ordinary writings on the subject. In Section III, the author studies the symptoms under the two groups of *cerebral* and *spinal*, and enters into a careful account of the anatomy and physiology of the separate division of the cerebro-spinal and ganglionic systems, and their mutual connexions, as necessary to the comprehension of the distinction between the two orders of symptoms. In this description, which, for the most part, corresponds with those given by recent writers on physiology,† we shall not follow him, but proceed at once to his application of them to the pathology of the disease.

The author shows, by citing the expressed opinions of Drs. Collins, Hamilton Lee, and others, and by adducing the discordant and diverse accounts of post-mortem examinations, that no very just appreciation of the proximate cause of the disease has been hitherto entertained. He subsequently states his own opinion, that the appearances which by some have been regarded as the proximate cause of the convulsions, have been in reality their effects. He insists upon the fact, that no injury to the cerebrum, or cerebellum, can cause convulsion as long as the true spinal system is not involved, which fact, he observes, is a sufficient answer to all those who regard congestion or other diseases of the brain as the disease. Having repeated this and other opinions, he states his own in the following manner:—There can be no question that the proximate cause of puerperal convulsion consists in a morbid irritation of the true spinal system, and more especially of the medulla oblongata, propagated to it, from the mucous surfaces, through the incident nerves of the excitomotor system.

In Section V, the subject of diagnosis is considered. The chief distinction to be drawn is between the "apoplectic," the "hysteric," and the "epileptic" convulsion. In hysteric convulsion, there is not the complete closure of the glottis, and consequently there is not the stertor and coma; neither, as Marshall Hall expresses it, in reference to general epilepsy, is there the perfect laryngismus and

* Union Médicale, April 8, 1848.

† Flourens, Valentin, Marshall Hall, Carpenter, Müller, &c., from whom quotations are freely taken.

odaxismus, which two symptoms are pathognomonic of *epilepsy*. The apoplectic convulsion is distinguished by the rapid supervention of coma, stertor, &c., the non-repetition of the spasmodic movements.

The treatment recommended by the author does not differ from that in general use. He, however, gives a physiological reason for the treatment employed, which, in the hands of those unacquainted with the influence of the excito-motory system of nerves, is entirely empirical, and, though successful, is conducted at least on false principles.*

§ III.—Diseases of Children.

40. *Value of Fœtal and Embryonic Life.*—Under this title Dr. Radford has contributed an essay, in which he inquires into the legal, social, and obstetrical value set upon the product of conception. In the first portion of the inquiry, viz., whether the law forms a just estimate of this value, he mentions, with indignation, the ridiculous and ignorant farce occasionally performed, in the impanelment of matrons to decide upon the pregnancy of criminals, and criticises the opinion which would make a distinction between an embryo and a *quick* child, insisting upon the justice of throwing as much protection around the former as the latter.

In the second part he shows that society, from its origin, has placed little or no value on embryonic life, and that, even in the present day, enlightened mothers think nothing of their abortions further than as their own life and health may be affected. In the third part he inquires whether the obstetrical principles of the profession afford the best means of preserving the embryo and fœtus. This inquiry embraces the symptoms and treatment of spontaneous abortion, the propriety or non-propriety of inducing abortion in narrow pelves, &c. This practice has been recognised by many; but Dr. Radford thinks it unjustifiable on religious grounds. Premature labour is next considered, and the propriety of inducing it admitted, both in reference to the child and to the mother. Rules for the use of ergot, the forceps, perforation, &c., are also given.†

41. *Monsters.*—Several instances of monstrous births have recently been recorded. Dr. Lyell met with a double monster, the fœtuses being united from the umbilicus to the sternum, having one pericardium containing two distinct and perfect hearts; two pairs of lungs; a single diaphragm and liver. The umbilical veins and arteries were double at their origin, and inserted into separate placentas, but united midway into a single cord.‡

—M. Prus records the birth of a monster with two heads, one white, the other black; the body was normal. The black colour was clearly ascertained not to depend upon nævus or other morbid condition, but was due to the existence of pigmentum nigrum, as in the negro. The parents were *fellahs*. He could not discover that the mother had had connexion with a negro.§

—A very unique case has been published by Mr. Gabb, being an instance of a fœtus possessing a brain but no spinal marrow. Dr. Tyler Smith, who mentions the case, regards it as a proof of the correctness of his explanation of the so-called fœtal movements. These were remarkably strong in the present case, but, as Dr. Smith observes, could not have depended on the motion of the fœtus, as there was no connexion between the muscles and nervous centres.||

[This case is certainly a most remarkable one, and offers no slight embarrassment to the accepted laws of developmental physiology.]

42. *Hæmorrhage from the Umbilical Cord.*—Mr. Hill was called to an infant, eight days old, from whose navel there had been bleeding for five hours. Several applications had been employed without effect. The child appeared considerably sunk by the discharge; the cord was thick, and vessels apparently large. He first put a small compress on the part, which was retained by the pressure of the finger. He then mixed up two tablespoonfuls of plaster of Paris, in a cup with water into a thick paste, and hastily removing the compress, he let the contents of the cup flow out on the part, where it immediately settled and hardened. He remained with the child some hours, and kept the abdomen partially

* Essay on the Epileptic Form of Puerperal Convulsions. Nottingham, p. 74.

† Obstetric Record.

§ Union Médicale.

‡ Monthly Journal, August.

|| Lancet, Oct. 7, 1848.

exposed to the air; a few cracks having taken place on the plaster, he filled them up with fresh. He then put a bandage on the infant, removing it occasionally, and filling up the cracks that took place for the purpose of keeping the plaster solid, which was repeated for four days. It was then removed, and the bleeding did not return. On examining the cast, there appeared three small papillæ, which the author supposes corresponded to the two arteries and vein, which they occupied until the vessels became impervious.

Mr. Hill claims no merit of originality for this practice; he took the hint from Dr. Churchill, who, in a very excellent paper on the umbilical cord, published in the 50th volume of the 'Edinburgh Medical and Surgical Journal,' page 302, for the year 1838, has suggested such treatment.*

43. *Pleuritis and Empyema in Children*.—In an essay which appears in the 'Dublin Quarterly Journal,'† Dr. Battersby objects to the opinion of the infrequency of the above diseases in early life, and narrates six cases, four of which were instances of pleuritis with empyema, and the other two of simple pleurisy. The first case, which occurred in an infant two years and a half old, is remarkable for the tender age of the patient, but more particularly from the occurrence of spontaneous perforation of the thoracic wall. The fourth case, also, was that of a patient only two years of age. The author discusses the comparative facility in diagnosing pleurisy in the child and adult, and concludes that it is not so difficult in the former as has been supposed. The signs most to be depended on, he states to be bronchial respiration, feebleness of the respiratory murmur, and dullness on percussion.

44. *Infantile Dysentery*.—Mr. Garlike relates some instructive cases, in one of which great advantage was derived from enemata of nitrate of silver. He does not seem aware that the same treatment had been previously recommended by M. Trousseau.

* Dublin Medical Press, June 7, 1848.

† No. 8.

BOOKS RECEIVED.

1. *Treatise on the Practice of Medicine.* By Dr. Wood. 2 vols. 8vo.
2. *Graves's Clinical Medicine.* Second Edition. 2 vols. 8vo.
3. *Handbook of Physiology.* By Dr. Kirkes. pp. 705.
4. *Introduction to Practical Chemistry.* By John E. Bowman. 12mo. pp. 278.
5. *Coleridge's Theory of Life.* Edited by Seth Watson, M. D.
6. *On the Influenza of 1847-8.* By Dr. Beville Peacock. 8vo. pp. 182.
7. *On the Treatment of Ulcers.* By Henry Chapman, F. R. S. 8vo. pp. 156.
8. *The Periodoscope.* By Dr. Tyler Smith.
9. *Clinical Midwifery.* By Dr. Lee. Second Edition.
10. *American Journal of Dental Science.* Oct. 1847, Jan., April, July, 1848.
11. *Physiology.* In Blank Verse. By Dr. Dick.
12. *Chemistry as exemplifying the Wisdom of God.* By George Fownes. Second Edition.
13. *Treatise on Diseases of the Heart and Great Vessels.* By S. Hope, M. D., F. R. S. Fourth Edition. pp. 611.
14. *Observations on the Bulam, or Yellow Fever.* By Sir Wm. Pym, K. C. H., &c. pp. 310.
15. *Reflections on Organization.* By Henry Freke, M. B., T. C. D., &c. pp. 60.
16. *Clinical Lectures.* By J. Duncan, M. D.
17. *Portraits of Diseases of the Skin.* Fasciculus IV.
18. *Surgical Anatomy.* By Joseph MacLise. Part I.
19. **PAMPHLETS AND REPRINTS.**
11. *Ophthalmic Cases.* By John F. France, (Reprint.)
2. *Operation for Fissure of the Hard and Soft Palate.* By Dr. John Mason Warren. (Reprint.)
3. *Cases of Torsion, Doubling and Expulsion of the Fœtus, in Shoulder Presentations.* By Dr. Radford. (Reprint.)
4. *On the Production of Local Anæsthesia.* By Professor Simpson. (Reprint.)
5. *Report on Anæsthetic Midwifery.* By the same.
6. *Report on Medical Cases in the Liverpool Northern Hospital.* By Dr. Turnbull.
7. *Oratio et Harveii Institut, &c.* A Francisco Hawkins, M. D.
8. *Observations on the Cultivation of Organic Science (being the Hunterian Oration for 1848).* By R. Grainger, F. R. S.
9. *Account of a Case of Hysteria.* By R. West, Esq. (Reprint.)
10. *On a New Method of Treating Deafness.* By Mr. Yearaley.
11. *On the Ganglionic System of Nerves. Part 3.* By Dr. Radcliffe Hall. (Reprint.)
12. *Adventitious Products.* By Dr. Walshe. (Reprint.)
13. *Hasall's Microscopic Anatomy.*
14. *Cases of Disease of the Appendix Cæci cured by Operations.* By Henry Hancock, F. R. C. S. pp. 12.
15. *Remarks on Chloroform in alleviating Human Suffering.* By W. H. Bainbrigge, Esq.
16. *Arguments against the Indiscriminate Use of Chloroform in Midwifery.* By Dr. William Merriman.
17. *Scriptural Authority for the Mitigation of the Pains of Labour.* By Dr. Protheroe Smith.

BIBLIOGRAPHICAL RECORD.

WHEN NOT OTHERWISE STATED, ALL BOOKS PUBLISHED IN LONDON.

1. **Advantages of Ether and Chloroform in Operative Surgery.** By T. B. Curling, F.R.C.S.E., Lecturer on Surgery, &c., London Hospital. 1s. 4d.
2. **The Philosophy of Animated Nature; or, the Laws and Action of the Nervous System.** By G. Calvert Holland, M.D., Physician Extraordinary to the Sheffield Infirmary. 12s.
3. **On the Aims and Philosophic Method of Pathological Research, an Inaugural Address delivered at St. Thomas's Hospital, Dec. 15, 1847,** by John Simon, F.R.S., formerly of King's College, London. 3s. 6d.
4. **Practical Observations on Midwifery, and the Diseases incident to the Puerperal State; embodying a Clinical Report of the Dublin Lying-in Hospital for three years.** By Alfred H. McClintock, M.D., F.R.C.S.I., and Samuel L. Hardy, M.D., F.R.C.B.I. 10s. 6d.
5. **On the Nature and Treatment of Stomach and Renal Diseases; being an Inquiry into the Connexion of Diabetes, Calculus, and other Affections of the Kidney and Bladder with Indigestion.** By Wm. Prout, M.D., F.R.S. 16s.
6. **Principles of Medicine, comprehending General Pathology and Therapeutics.** By C. J. B. Williams, M.D., F.R.S., Professor of Medicine in University College Hospital. 14s.
7. **Recent advances in the Physiology of Motion, the Senses, Generation, and Development.** By William Baly, M.D., Physician to Millbank Prison, and W. B. Kirkes, M.D.; being a Supplement to the Second Volume of Muller's Physiology. 5s.
8. **Professor Liebig's New Work.—Researches on the Motion of the Juices in the Animal Body.** Edited by Professor Gregory. 5s.
9. **Insanity Tested by Science, and shown to be a Disease rarely accompanied with permanent Organic Change of Structure, and greatly susceptible of cure. In which it will be proved to be dependent upon the Morbid State of the Blood.** By C. M. Burnett, M.D. 3s. 6d.
10. **On the cultivation of Organic Science. Being the Hunterian Oration, delivered February 14, 1848.** By R. D. Grainger, F.R.S. 2s.
11. **Clinical Observations on the Pathology and Treatment of Continued Fever, from Cases occurring in the Medical Practice of St. Bartholomew's Hospital.** By Edward Latham Ormerod, M.S., Caius College, Cambridge; Licentiate of the Royal College of Physicians, and Demonstrator of Morbid Anatomy at St. Bartholomew's Hospital. 8s.
12. **On Functional Disease of the Liver associated with Uterine Derangement, embracing the Consideration of Special, Physiological, and Pathological Relations hitherto unnoticed.** By Butler Lane, M.D., M.R.C.S.E., &c. 1s. 6d.
13. **Practical Observations on the Administration and Effects of Chloroform, especially in its Application in Cases of Natural Labour.** By J. H. Stallard, Esq., M.R.C.S., &c., Surgeon to the Leicester General Dispensary. 1s.
14. **A Complete General Index to the Twenty-four Volumes of the 'British and Foreign Medical Review,'** edited by John Forbes, M.D., F.R.S., F.G.S., &c. 10s. 6d.
15. **On Deformities of the Spine. Part First.** By Edward W. Duffin, M.D., Fellow of the Royal College of Surgeons, Edinburgh. 8s.
16. **Arguments against the Indiscriminate Use of Chloroform in Midwifery.** By S. Wm. J. Merriman, M.D., Cantab. 1s.
17. **Oratio ex Harveii Instituto in ædibus Collegii Regalis Medicorum habita die Junii xxiv., MDCCCXLVIII.** A Francisco Hawkins, M.D., Coll. Reg. Med. Lond. Socio et Registrario Olim Coll. Di. Jo. Bapt. Oxon. Socio. 2s. 6d.
18. **Scriptural Authority for the Mitigation of the Pains of Labour by Chloroform and other Anæsthetic Agents.** By Protheroe Smith, M.D. With an Appendix by Professor Simpson. 1s.
19. **Dental Physiology and Surgery, Delivered at the Middlesex Hospital Medical School,** by John Tomes, Surgeon-Dentist to the Middlesex Hospital. 12s.
20. **Dr. Ashwell on Diseases of Women. Illustrated by Cases derived from Hospital and Private Practice.** 21s.
21. **The Hand Phrenologically Considered; being a Glimpse at the Relation of the Mind with the Organization of the Body.** 4s. 6d.
22. **Graves's Clinical Lectures on the Practice of Medicine. Second Edition.** Edited by J. Moore Neilgan, M.D., M.R.I.A., &c. 24s.
23. **The Periodoscope, a new Instrument for determining the Date of Labour, and other Obstetric Calculations; with an explanation of its Uses, and an Essay on the Periodic Phenomena attending Pregnancy and Parturition.** By W. Tyler Smith, M.S., Lond. 4s.
24. **An Introduction to Practical Chemistry.** By John E. Bowman, Demonstrator of Chemistry in King's College, London. 6s. 6d.
25. **Portraits of Skin Diseases.** By Erasmus Wilson, F.R.S. 15s. Faa. 1, 2, 3, 4.
26. **On the Yellow Fever; with a Review of a "Report upon the Diseases of the African Coast,"** by Sir William Burnett and Dr. Bryson," by which its highly contagious powers

are proved. By Sir William Pym, K.C.B., Inspector-General of Army Hospitals. 6s.

27. Clinical Midwifery; comprising the Histories of 545 Cases of Difficult, Preternatural, and Complicated Labour; with Commentaries. By Robert Lee, M.D., F.R.S. 5s.

28. A Practical Treatise on the Domestic Management and most Important Diseases of Advanced Life. With an Appendix, containing a Series of Cases Illustrative of a New and Successful Method of treating Lumbago, Sciatica, and other local painful affections. By George E. Day, M.D., Fellow of the Royal College of Physicians, and Physician to the Western General Dispensary.

29. On the Influenza, or Epidemic Catarrhal Fever of 1847-8. By Thomas B. Peacock, M.D. Physician to the Royal Free Hospital. 5s. 6d.

30. On Femoral Rupture; its Anatomy, Pathology, and Surgery. With a New Mode of Operating, applicable to Cases of Strangulated Hernia generally. By John Gay, Fellow of the Royal College of Surgeons, Surgeon to the Royal Free Hospital, &c. With Illustrations by Bagg.

31. Surgical Anatomy; a series of Dissections Illustrating the Principal Regions of the Human Body. Fasc. I. By Joseph MacLise, Surgeon. 5s.

32. Medical Jurisprudence. By Dr. Alfred Taylor, F.R.S. 12s. 6d. 2d Edition.

33. On Diseases of the Heart and Great Vessels. By James Hope, M.D., F.R.S. 4th Edition.

34. Chemistry as Exemplifying the Wisdom and Beneficence of God. By George Fownes, F.R.S.

35. A Treatise on the Cure of Ulcers by Fumigation. By George Alfred Walker, Surgeon, Member of several Learned and Scientific Societies. 6s.

36. Practical Treatise on the Use of the Microscope, including the different methods of Preparing and Examining Animal and Vegetable Structures. By John Quekett, Esq., Assistant Conservator to the Museum of the Royal College of Surgeons. 21s.

37. A Handbook of Physiology. By W. S. Kirkes, M.D., assisted by James Paget, Lecturer on General Anatomy and Physiology at St. Bartholomew's Hospital. Illustrated by Steel Plates and Wood Engravings. 12s. 6d.

38. The Pharmacopœia of the Royal College of Physicians of London. Translated by Richard Phillips, F.R.S.L. & L. With Notes and Illustrations. 10s. 6d.

39. Lectures on the Diseases of Infancy and Childhood. By Charles West, M.D., Fellow of the Royal College of Physicians, Senior Physician to the Royal Infirmary for Children, Physician-Accoucheur to the Middlesex Hospital, and Lecturer on Midwifery at St. Bartholomew's Hospital. 14s.

40. Cholera; its Electrical Origin, Electro-Galvanic Phenomena, and Treatment by Isolation and Oxygen Gas. By Henry Holmes, M.D., M.R.C.S. 6d.

41. Practical Observations on a Successful Method of treating Cholera. By Charles Paterson, M.D. 1s.

42. Cholera; a Practical Treatise thereon. By William Maraden, M.D., Senior Surgeon to the Royal Free Hospital. Second edition. 2s.

43. Fungous Origin of Cholera; Scientifically explaining its Phenomena, Prevention, and Treatment. By Charles Cowdell, M.B., M.R.C.S.E. 6s. 6d.

44. On Asiatic Cholera, and its Relations to some other Epidemics; including General and Special Rules for its Prevention and Treatment. By Thomas Henry Starr, M.D., Senior Physician to the Warwick Dispensary. 2s. 6d.

45. Etiological, Pathological, and Therapeutical Reflections on Asiatic Cholera, as observed in Europe, Asia Minor, and Egypt. By A. Henriques, M.D., F.R.C.S.L. 1s. 6d.

46. The True Pathological Nature of Cholera; and an Infallible Method of Treating it. With an Introduction, Additions, and Emendations. In a Series of Letters. By George Stuart Hawthorne, M.D. 2s.

INDEX TO VOL. VIII.

Abortion, prevention and treatment of	156
Abscess, pneumonic, case of	48
ischio-rectal	141
of the uterine appendages	150
Acne rosacea, treatment of	80
arsenic in	80
AITKEN, Mr. on convulsions in typhus	187
ALLAN, Mr. cases of hernia by	234
ALONZO, Dr. case of intestinal obstruction	234
Amputation, after gunshot wounds, question of	102
at the hip joint, successful case of	196
Anæsthesia, local	223
in midwifery, report on	241
Anasarca, cutaneous incisions in	74
Anchylosis, treatment of, by cold water	238
Aneurism, treatment of by compression	125
of the aorta	205
Apoplexy, relation of cerebral congestion to	195
Appendix cæci, case of disease of, cured by operation	233
Aromatic wine, formula for	180
Arsenic in furunculus and acne	80
paralysis from, case	199
ASHWELL, Dr. notice of a third edition of 'Practical Treatise on Diseases of Women'	241
his objection to the uterine sound	245
Atropia, therapeutic uses of	215
ATREA, Dr. on the treatment of cholera	180
BAINBRIDGE, Mr. on the religious objections to anæsthesia in midwifery	241
Baldness, treatment of	209
BARCLAY, Dr. WHYTE, on the statistics of valvular diseases of the heart	204
BARLOW, Mr. on paralysis with atrophy	199
BATTERSBY, Dr. on the pleuritis and empyema of children	280
Bed-sores, treatment of	114
BEECHROFT, Mr. S. on the communication of puerperal fever by the practitioner	257
BELL, Mr. JOSEPH, on certain displacements of the unimpregnated uterus	145
BELLINGHAM, Dr. on the treatment of aneurism by compression	125
on a congenital malformation of the shoulder-joint	140
on aneurism of the aorta	205
BENNET, Dr. HENRY, on inflammation and abscess of the uterine appendages	150
BERNARD, M. C. Esq. on the treatment of bed-sores	114
Biliary concretions, extraordinary case of	56
BIRD, Dr. GOLDING, on therapeutics in relation to depuration of the blood	211
Bismuth, in the diarrhoea of phthisis	214
BLACHE, M. on the diseases of the larynx in infancy	175
Blisters, in the treatment of ulcers	123
Bloodletting in gunshot wounds	106
BODDY, Mr. cases of puerperal fever by	257
Bone, diagnosis of scrofulous and syphilitic diseases of	82
new method of resection of	118
BONNET, M. on cauterization as a remedy for the results of operations	95
Bowels, overloaded, head symptoms from	31
BRADY, Mr. on chloroform in cholera	25

Brain, tubercular disease of, case	195
fungus of the, case	196
hydatids of, case	197
Bronchitis, in infancy	170
BrowNE, Dr. F. on a fatal case of chorea	32
Bullen, Mr. extraordinary calculus extracted by	236
Cachexia, paludal	168
Calculus, salivary	232
urinary, remarkable case	236
CAMPBELL, Dr. H. on the removal of foreign bodies from the duct of Wharton	123
CAMPARDON, M. on the treatment of acne rosacea	80
Cancer of the lip, necessity of excision in	118
Cancrum oris	52
Carbon in cholera	22
Caries of the tympanum, consequences of	95
CARMICHAEL, Mr. (Edin.) on chloroform in midwifery	243
CAZENAVE, M. on baldness and its treatment	209
Chloroform in cholera	25
in chorea	36
in hydrophobia	195
tests for	211
fatal cases from	220
in midwifery, testimony to the advantages of mode of exhibiting	242 243
Cholera, treatment of by various writers	21, 179
Chorea, acute, fatal case of	32
treated by chloroform	36
CLAY, Dr. case of excision of the anterior lip of the os uteri on the laws which regulate the duration of utero-gestation on spontaneous evolution	155 247 251
Cod-liver oil in lupus	77
tests for the purity of	213
COLEY, Dr. case of recovery from rupture of the uterus	255
Collodion, account of, and method of using	116, 218
Coma from retained biliary secretion	31
Contraction of muscles, tenotomy for	194
COPLAND, Dr. on puerperal fever	255
on the contagious nature of puerperal fever	256
on the communication of puerperal fever by the practitioner on the treatment of puerperal fever	257 256
CORFE, Mr. on dropsy	71
Cotton, use of, in deafness	219
Cranium, fractures of, how produced	92
Creasote in neuralgia	36
externally in erysipelas	212
Croup, M. ZERONI on	172
M. BLACHE on	175
CURLING, Mr. removal of a fibrous tumour from the vagina	246
Deafness, new mode of treating	98
DEBBOW, M. on the diagnosis of incomplete fractures	81
Delirium, febrile, tartar emetic and opium in	195
Delivery, premature, statistics of fainting after	250 255
Diabetes, remote causes of clinical lecture on	69 206
Diarrhœa, infantile of phthisis, bismuth in	176 214
DICK, Dr. on the treatment of gastrodynia	56
DIDOT, M. case of enterotomy by	122
Diet and regimen, notice of Dr. Robertson's work on	210
Dislocation of the shoulder, congenital	82
of the pelvis, cases	83
DONOVAN, Mr. on atropia	215
Dropsy, Mr. CORFE on	71
treatment of by cutaneous incisions	74
DUFFIN, Dr. EDWARD, case of biliary concretions	56

DUNCAN, Dr. F. on pneumonia	43
on a case of pneumonic abscess	48
Dr. JAMES, on divisions of hernial stricture external to the sac	235
Dysentery, comparative efficacy of different medicines in	58
infantile, nitrate of silver enemata in	260
ELDRIDGE, Dr. on the spontaneous expulsion of an uterine tumour	169
EMERY, M. on cod-liver oil in lupus	77
Emphysema, general, after whooping-cough	47
Enterotomy, its obstruction of the bowels, case	122
Ergot of rye in retension of urine	62
Erysipelas, traumatic, treatment of	96
nitrate of silver ointment in	114
creasote externally in	212
EVANS, Mr. PRICE, on carbon in cholera	22
FALLOON, Mr. extirpation of the superior maxilla, by	232
Femur, excision of the head of, in caries of the joint	131
general remarks on	237
FERGUSON, Mr. operation by, of excision of the trochanter and neck of the femur	237
Fever, puerperal, contagion of, &c.	257
typhus, treatment of	17
typhoid, internal use of turpentine in	20
typhoid and typhus, diagnosis of	186
congestive	187
intermittent, and phthisis, antagonism of denied	188
FLEMING, Dr. on the exhibition of mercury in fractional doses	213
FLUDER, Mr. CHARLES, on the necessity of excision in cancer of the lip	118
Forceps, remarks on	167
long, on the application of	165
Fractures, ununited, treatment of	239
incomplete, diagnosis of	81
GABB, Mr. case of an amyelitic fetus by	259
Galvanism, therapeutic uses	215
Gangrene, hospital	111
GARLICK, Mr. on enemata of nitrate of silver in infantile dysentery	260
Gastrodynia, treatment of	56
Gastrotomy in obstructed œsophagus	94
Glottis, spasm of in the adult	203
GOLDING, Dr. R. C. on the pneumonia and bronchitis of infants	170
on the vaginal discharges of children	178
Gout, proximate cause of	62
on the contagion of	207
GOZZO, M. on rupture of the unimpregnated uterus	244
GRAVES, Dr. on the treatment of cholera	179
notice of a second edition of his Clinical Lectures	185
on a particular affection of the portio dura	200
GREGORY, Dr. GEORGE, on ophthalmia	189
Gunshot wounds, treatment of	191
questions concerning amputation after	192
gangrene after	193
dilatation of	195
extraction of foreign bodies from	ib.
bloodletting in	196
internal remedies in	197
topical applications in	199
secondary hemorrhage in	110
purulent absorption in	111
hospital gangrene after	ib.
general observations on	225
Gutta serena, surgical uses of	126
HALL, Dr. RADCLIFFE, on the treatment of cholera	24, 180
HANCOCK, Mr. case of disease of the appendix cæci cured by operation	233
HANCOCK, J. R. Esq. on the treatment of cholera	23, 180
Hare-lip, improved operation for	231
HASTINGS, Dr. on a case of paralysis from arsenic	199
Heart, spasm of, editorial opinions respecting	203
statistics of valvular disease of	204

Hemorrhage from the umbilical cord	259
secondary in gunshot wounds	110
uterine, bitartrate of potash in	155
turpentine in	214
Hemp, Indian, its active principle	ib.
HERAPATH, Dr. case by, of emphysema after whooping-cough	47
Hernia, strangulated by a band of lymph	84
Mr. VINCENT on	93
cases by Mr. ALLAN	234
Herniotomy	235
HILL, Dr. (Peckham), on chloroform in cholera	189
Mr. on hemorrhage from the umbilical cord	259
HINTON, Mr. on the galvanic plates	216
Hip-joint, successful amputation at	136
excision of the head of the femur in caries of	131
HOCKIN, Mr. test for purity of cod-liver oil, by	213
HOWARD, Dr. R. case of ischio-rectal abscess simulating dislocation of the femur	141
HUGHES, Dr. on pneumonia	203
Hydriodate of iron and quinine	214
Hydrophobia, Dr. WRIGHT's experiments on	192
Dr. ECKEL on	193
treatment of, by chloroform	195
Hysteria, remarkable case of	36
Intestinal obstruction, Mr. PHILLIPS on	233
caused by displacement of the spleen	234
enterotomy in, cases	192
JENKINS, Mr. C. E. on the treatment of cholera	21, 180
KEITH, Dr. on anæsthesia in midwifery	243
KELLY, THOMAS, Esq., case of neuralgia cured by creasote	36
KENNEDY, Dr. HENRY, on nervous influence and derangement	26
LANE, Dr. BUTLER, on the connexion between the functional derangements of the liver and uterus	244
LAVENDER, Dr. on congestive fever	187
LARGH, Dr. on a new mode of resection of the bones	118
LEE, Dr. T. SAFFORD, on the diagnosis and treatment of retroflexio uteri	146
LEE, Dr. notice of a second edition of his Clinical Midwifery	241
LEWIS, Dr. (U.S.) on the cause of œdema of the extremities in phthisis	203
Life, fetal and embryonic, value of	259
Liver and uterus, connexion between the functional derangements of	244
LOMBARD, M. on cutaneous incisions in dropsies	74
Lupus, cod-liver oil in	77
LYELL, Dr. case of monster by	259
LYON, W. on the uses of gutta percha in surgery	126
McCANN, Mr. his treatment of cholera	180
McILWAIN, Dr. case of prolonged gestation	248
MALCOLM, Dr. his experience with chloroform in midwifery	243
Maxilla, superior, case of extirpation of	232
MEIGS, Dr. on prolapsus uteri simulating acute peritonitis	156
on the use of medicated "sachets"	170
on fainting after delivery	255
notice of a work by, on the Diseases of Women	240
the contagion of puerperal fever denied by	255
Mercury, in fractional doses	213
MERRIMAN, Dr. WILLIAM, on anæsthesia in midwifery	241
MILLER, Dr. on the treatment of ununited fractures by subcutaneous incision	239
MITCHELL, Dr. on solution of gun-cotton in ulcerated os uteri	246
MOIR, Dr. his experience with chloroform in midwifery	243
Monsters	259
Morbus Brightii, pathology of	60
Myringitis, pathological sequences of	85
Naphtha in cholera	212
NELSON, Dr. on the eruptive diseases of the scalp	76
Nervous influence and derangement	28
Neuralgia treated by creasote	36
Indian hemp	200

Nitrate of potass in rheumatism	69
of silver, concentrated solution of, in ptyalism	56
NUNNELEY, Mr. on local anaesthesia	244
"Ochlesia"	189
Oesophagus, gastrotomy in stricture of	94
cancer of, opening into the aorta, case	232
O'FERRALL, Dr. on pendulous tumours	226
Os uteri, excision of the anterior lip of	155
occlusion of	160
difficult labour from	251
solution of gun-cotton in ulceration of	246
OTTLEY, Mr. notice of a work by, on Diseases of the Head and Neck	231
Ovarian dropsy, Dr. TILT on	246
Ovariectomy, fatal cases of, by Mr. POTTER and Mr. ARNOTT	246
successful case	246
opinion of Drs. MEIGS and ASHWELL on	246
Paralysis from arsenic	199
with atrophy	199
PAPILLAUD, Dr. on dysentery	58
PATERSON, Dr. on the treatment of cholera	180
PEARL, Mr. on the contagion of gout	207
PEDDIE, Dr. on a sign of early pregnancy	247
PEEBLES, Dr. on some injurious effects of tartar-emetic	214
Pelvis, dislocations of, cases	83
Periodoscope, the, description of	248
Peritonitis simulated by prolapsus uteri	156
Pessaries, medicated, those chiefly used by Professor SIMPSON	170
Phthisis, cause of oedema in	203
PIRRIE, Dr. cases of internal hernia, by	84
on herniotomy	235
Placenta, extraction of before the child, cases	254
Pleuritis and emphysema in children	260
Pneumonia, clinical lecture on	43
Dr. HUGHES on	203
recovery from without crepitus	203
Portio dura, peculiar affection of	200
FRANKER, M. on a case of fungus of the brain	196
Pregnancy, sign of early	247
early, and delivery	ib.
laws regulating the duration of	ib.
prolonged	268
extra-uterine	249
dropsy during	ib.
Prolapsus uteri simulating peritonitis	156
medicated "sachets" in	170
Dr. MEIGS and Dr. ASHWELL on	245
Ptyalism, treatment of by a concentrated solution of nitrate of silver	56
PURFORD, Dr. on dystocia from vaginal cicatrices	251
Puerperal fevers, classification of	255
Puerperal convulsions	258
Puerperal fever, contagion of	256
treatment of	ib.
quinine a prophylactic in	257
Purulent resorption, preventive treatment of	96
Quinine, a prophylactic in puerperal fever	257
RADFORD, Dr. on the value of fetal and embryonic life	259
on torsion, doubling, and expulsion of the fetus	252
RANKING, Dr. case of coma from retained biliary secretion	31
REGNAULT and DEVILLIER, MM. on dropsy of pregnancy	249
Retroflexion of the womb, diagnosis and treatment of	146
Rheumatism, acute, treatment of	67
nitrate of potash in	69
RICORD, M. on the diagnosis of secondary syphilitic eruptions	78
distinction between syphilitic and scrofulous affections of the bone	82

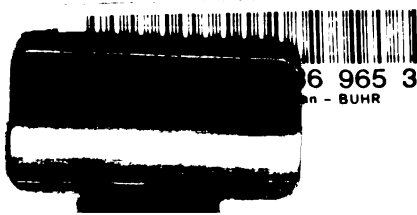
RICORD, M., opinions of, on venereal diseases, summary of	91
treatment of ditto	120-122
ROBERT, M. cure by, of contraction of the muscles of the legs, &c. from a rheumatic affection	126
ROBERTSON, Dr. notice of a work by, on Diet and Regimen	210
Roseola punctata	209
" Sachets," medicated	170
SALTER, Mr. on tubercular disease of the brain	195
Scalp, eruptive diseases of	76
SCHWEITZ, Dr. on the use of arsenic in furunculus and acne	80
SEDILLOT, M. on gastrotomy in obstruction of the œsophagus	94
SHEARMAN, Dr. on the treatment of cholera	180
Shoulder-joint, congenital malformation of	140
SIBSON, Mr. on the movements of respiration in health and disease	200
SIMPSON, Dr. on the application of the long forceps	165
on medicated pessaries	170
on local anæsthesia	223
report by, on the results of anæsthesia in midwifery	242
on turning in narrow pelvis	252
cases of rupture of the uterus	255
SIMS, Dr. on trismus nascentium	198
Skin diseases, notice of Mr. WILSON's Plates on	208
classification of	208
SMITH, W. R., Esq. on a congenital dislocation of the shoulder	82
HENRY, Esq. on excision of the head of the femur	131
Dr. TYLER, on the prevention of abortion	156
on the peridoscope	248
Dr. PROTHEOR, on the religious objections to anæsthesia in midwifery	241
his experience of chloroform in labour	243
Mr. (Coventry), case of early pregnancy and delivery	247
Spongio-piline, account of	219
Spontaneous evolution, Drs. CLAY and RADFORD on	251
SPRONG, Mr. on catheterism	236
SPRY, Mr. on local anæsthesia	224
STEWART, Dr. case of hydatids of the brain, by	197
Stomatitis, Dr. WEST on	51
Stramonium, an emmenagogue	215
Strangury, liquor potassæ in	62
Stricture, irritable, treatment of	130
Strychnine in cholera	21
SYLVESTER, Dr. on bitartrate of potash in uterine hemorrhages	155
SYME, W. on the treatment of callous ulcers	123
Syphilitic eruptions, diagnosis of	78
Tartar emetic, in cholera	24
injurious effects of	214
Tendons and ligaments, diagnosis of injuries of	81
Tetanus, Dr. WILMOT on	197
Therapeutics, in relation to depuration of the blood	211
of galvanism	215
THOMPSON, JOSEPH, Esq. on the epileptic form of puerperal convulsions	258
TILT, Dr. on the treatment of ovarian dropsy	246
TODD, Mr. on tartar emetic and opium in febrile delirium	195
Dr. BENTLEY, on diabetes	206
Tracheotomy, interesting case of	232
TRASK, Dr. on occlusion of the os uteri and vagina	160
on rupture of the uterus	162
Trismus nascentium	198
Trochanter, excision of	237
TROUSSEAU, M. on fractional doses of mercury	213
Tumour uterine, spontaneous expulsion of	169
pendulous, history of	226
TURNBULL, Dr. JAMES, on acute rheumatism	67
Turning, in narrow pelvis, Drs. SIMPSON, COLLINS, and WILSON on	252
Turpentine, in typhoid fever	20
in hemorrhages	214

TYLER, Dr. ALEXANDER, on the use of the forceps	167
Tympanum, caries of, and its consequences	85
Typhoid fever, warm baths in	187
turpentine in	20
and typhus, diagnosis of	186
Typhus fever, treatment of	17
exanthematous nature of	187
convulsions in	ib.
Ulcers, callous, treatment of	123
Umbilical cord, hemorrhage from	259
Urethra, strictures of	236
treatment of irritable stricture of	130
Urine, ergot in retention of	62
Uterine hemorrhage, bitartrate of potash in	155
Mr. NEWNHAM on	254
unavoidable, incision of the os uteri in	ib.
appendages, abscess of	150
Uterus, displacements of	145
retroflexion of	146
rupture of	162, 254
the unimpregnated	244
and liver, relation between	ib.
strumous disease of	ib.
excision of the neck for carcinoma	246
prolapse of, during labour	251
Vagina, removal of a fibrous tumour from	246
dystocia, from cicatrices of	251
occlusion of	160
discharges from, in children	178
VELFAU, M. on the surgical treatment of gunshot wounds	101
Velum palati, extirpation of	232
Venereal disease, M. RIGORD on	91
treatment of	120
Vesico-vaginal fistula	236
VINCENT, Mr. on dynamics applied to surgery	92
on the treatment of irritable stricture	130
WALKER, Dr. on spasm of the glottis in the adult	203
WATTS, Dr. WILLIAM, on diabetes	69
WATSON, Dr. (U. S.) case of complete prolapsus uteri during labour	251
WELLS, Mr. on the therapeutics of galvanism	215
WEST, Mr. R. remarkable case of hysteria by	36
Dr. on stomatitis	51
infantile diarrhoea	176
Wharton's duct, removal of a foreign body from	123
WHITE, Mr. ANTHONY, on the proximate cause and treatment of gout	62
WILMOT, Mr. on tetanus	197
strictures of the urethra	236
WILSHIRE, Dr. on the diagnosis of typhoid and typhus fever	186
WILSON, Mr. ERASMUS, notice of his Portraits of Skin Diseases	208
on roseola punctata	209
Dr. (Glasgow) on turning in narrow pelvis	253
WOOD, Dr. GEORGE B., on the treatment of typhus fever	17
turpentine in typhoid fever	20
the treatment of cholera	179
notice of a treatise by, on the Practice of Medicine	185
on the diagnosis of typhoid and typhus	186
on congestive fever	187
Wounds, gunshot, general observations on	225
WRIGHT, Dr. experiments by, on hydrophobia	192
YEARLEY, Mr. on a new mode of treating deafness	98
ZERONI on group	172

UNIVERSITY OF MICHIGAN



3 9015 07655 1806



6 965 3
BUHR

